# TRANSURANIC WASTE BASELINE INVENTORY REPORT – 2004 Revision 0



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TRANSURANIC WASTE BASELINE INVENTORY REPORT - 2004

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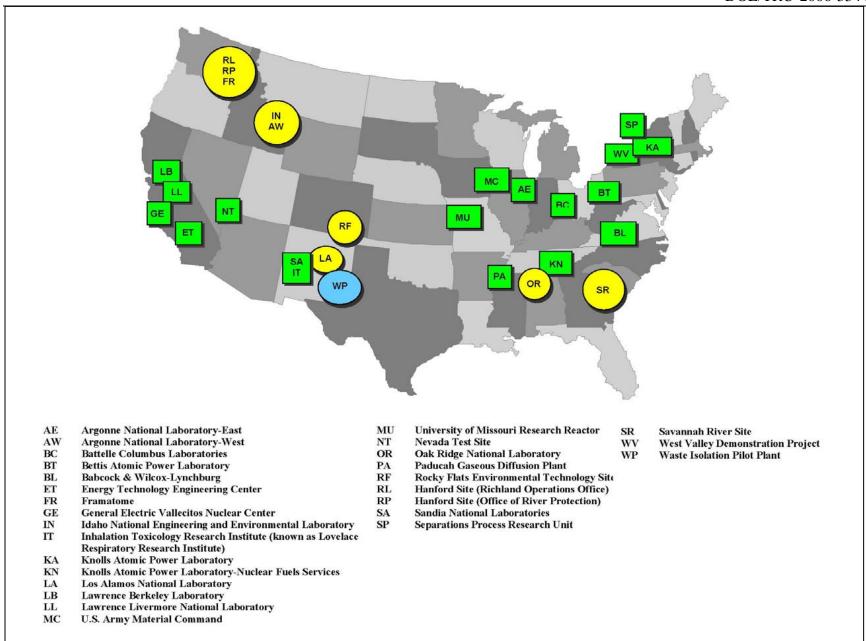
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#### 1 1.0 INTRODUCTION

#### 2 1.1 Background

- 3 The U.S. Department of Energy's (DOE's) Waste Isolation Pilot Plant (WIPP) opened on March
- 4 26, 1999, becoming the nation's first deep geologic repository for the permanent disposal of
- 5 defense-generated transuranic (TRU) waste. At the time of data cut off for the Compliance
- 6 Recertification Application 2004 (CRA-2004) (September 30, 2002), the waste was in
- 7 retrievable storage at 27 sites across the country (see Figure 1), pending disposal at the WIPP.
- 8 From the WIPP's opening through the inventory cut off date (September 30, 2002), 1,255
- 9 shipments of TRU waste were safely characterized, transported, and disposed in the WIPP.
- 10 TRU waste is defined as "...waste containing more than 100 nanocuries of alpha-emitting
- transuranic isotopes per gram of waste, with half-lives greater than 20 years..." (Public Law No.
- 12 102-579, 110 Stat. 2422 [1992], as amended by 104-201 [1996]) (U.S. Congress 1996). TRU
- wastes are classified as either contact-handled (CH) or remote-handled (RH), depending on the
- dose rate at the surface of the waste container. CH-TRU wastes are packaged TRU wastes with
- an external surface dose rate less than 200 millirem (mrem) per hour, while RH-TRU wastes are
- packaged TRU wastes with an external surface dose rate of 200 mrem or greater per hour (U.S.
- 17 Congress 1996). Unless otherwise indicated, for the purpose of this document, all references to
- 18 TRU waste include TRU waste and mixed TRU waste (waste that contains both radioactive and
- hazardous components, as defined by the Atomic Energy Act [U.S. Congress 1954] and the
- 20 Resource Conservation and Recovery Act [RCRA] as codified in Title 40 Code of Federal
- 21 Regulations [CFR] Part 261.3 [EPA 1980]).
- The DOE is committed to demonstrating compliance with all applicable regulations for the
- 23 permanent disposal of TRU defense wastes in the WIPP repository. These regulations are the
- 24 environmental standards for management and disposal of TRU defense wastes as mandated in 40
- 25 CFR Part 191 (EPA 1993) and Part 194 (EPA 1996), and the RCRA regulations. Compliance
- demonstration through performance assessment (PA) calculations for the CRA-2004 (DOE
- 27 2004c) is based on the estimated inventory of existing and currently projected waste streams
- 28 compiled in this document.
- 29 The purpose of the WIPP TRU Waste Baseline Inventory Report (WTWBIR) Revision 0 (DOE
- 30 1994) and Revision 1 (DOE 1995a) was to provide data to be included in the PA modeling
- 31 calculations for the WIPP. The *Transuranic Waste Baseline Inventory Report*, Revision 2
- 32 (hereafter referred to as TWBIR Revision 2) (DOE 1995b) expanded the original purpose of
- Revisions 0 and 1 to include support for the WIPP Land Withdrawal Act (LWA) (U.S. Congress
- 34 1996) by providing an estimate of the total DOE TRU waste inventory. The TWBIR Revision 2
- included a chapter and an appendix that discussed the total estimated DOE TRU waste inventory,
- including non-defense, commercial, polychlorinated biphenyl (PCB)-contaminated, and buried
- 37 (predominately pre-1970) TRU wastes that were not planned at the time for disposal in WIPP.
- 38 Since that time, Idaho National Engineering and Environmental Laboratory (INEEL), now the
- 39 Idaho National Laboratory (INL), is preparing to ship pre-1970 buried waste to WIPP.



Ovals and circles represent large quantity sites; squares represent small quantity sites; WIPP is shown in blue.

Figure 1. U.S. Department of Energy TRU Waste Sites

The *Transuranic Waste Baseline Inventory Report*, Revision 3 (hereafter referred to as TWBIR Revision 3) (DOE 1996a) was based on the TWBIR Revision 2 (DOE 1995b) data, which were supplemented by data in several memoranda issued during early calendar year (CY) 1996. These memoranda summarize additional data requested by the DOE to support PA modeling calculations.

The primary purpose of TWBIR Revision 3 (DOE 1996a) was to provide the summary data from TWBIR Revision 2 (DOE 1995b) and the supplemental information used in the PA for the development of the Compliance Certification Application (CCA) (DOE 1996b) that was delivered to the Environmental Protection Agency (EPA), to comply with the LWA (U.S. Congress 1996). The supplemental information was generated from specific data requests to the TRU waste sites since the publication of the TWBIR Revision 2. These supplemental data included estimates for complexing agents, oxyanions, and cement content in solidified waste that were first included in the 2003 Update Report, Appendix DATA Attachment F of the *Compliance Recertification Application 2004* (DOE 2004c).

The purpose of this *Transuranic Waste Baseline Inventory Report - 2004*, for the 2004 WIPP Compliance Recertification Application (hereafter referred to as the TWBIR - 2004) is to document the total estimated inventory of DOE TRU waste as defined by the DOE TRU waste sites. This document is a revision of Attachment F found in the Appendix DATA of the CRA-2004 (DOE 2004c). The primary purpose of this document is to provide the summary data required for the PA modeling calculations in support of the CRA-2004 that were used in the Performance Assessment Baseline Calculation (PABC) (Leigh et al. 2005a; Leigh et al. 2005b). Knowing that the WIPP waste inventory information has changed as a result of characterization activities, improved estimation processes, and emplacement of waste in WIPP, the EPA requested that an update to the CCA (DOE 1996b) inventory be included in the CRA-2004. This information was subsequently updated at EPA's request (Cotsworth 2005). TWBIR - 2004 provides the changes that were made to the inventory estimate that was submitted as part of the PABC.

#### 1.2 Purpose and Objectives

The TWBIR Revision 2 (DOE 1995b) contained the TRU Waste Baseline Inventory Waste Profiles (waste profiles) for all waste stream identifications (ID) (referred to waste stream in this report) reported by the TRU waste sites at that time, including some TRU waste streams that were unacceptable for disposal at WIPP. The waste profiles resided in two appendices in TWBIR Revision 2 (DOE 1995b). Appendix O reported the "Non-WIPP" waste streams and Appendix P reported the "WIPP" waste streams. For the TWBIR - 2004, Appendix I reports the "non-WIPP" waste streams, Appendix J reports the "WIPP" waste streams, and Appendix K reports the "emplaced waste." Although all TRU waste streams currently reported by the sites are accounted for in the current database (TWBID Revision 2.1, see Section 2.1.3) and are reported in the TWBIR - 2004, the non-WIPP waste streams do not contribute to the volume and scaling calculations. Hence, the non-WIPP waste streams did not contribute to the estimated TRU waste inventory for the PABC (Leigh et al. 2005a; Leigh et al. 2005b).

The objectives of the TWBIR - 2004 are to:

- 1. Estimate and describe the DOE TRU waste inventory;
- 2. Provide the required CRA information (Appendix DATA Attachment F and specific information requested by the EPA [Cotsworth 2005]) that were used to support the March 2006 WIPP recertification in a stand alone document; and
- 3. Provide updated information used in the PABC inventory.

To effectively keep track of the changes in the TRU waste inventory, site TRU waste inventory information will be monitored for changes as an ongoing process and will be reflected in subsequent issues of this document.

#### 1.3 Sources of Transuranic Waste Information

For this revision, the TRU waste inventory estimate was developed using existing information about the waste, which was provided by the TRU waste sites. In addition, information obtained from site Acceptable Knowledge (AK) Summary Reports was incorporated to provide the most current information on waste streams being characterized and shipped to WIPP. Particular focus on data collection involved discussion with TRU waste sites about changes to the inventory since the certification of WIPP in 1998. Site visits and onsite interviews facilitated data collection and ensured data were accurately represented.

This report includes information taken from the TWBIR Revisions 2 and 3, the WIPP Waste Information System (WWIS), and information provided by the TRU waste sites. The information found in the TWBIR Revision 2 (DOE 1995b) has not been updated since the publication of that document. The TWBIR Revision 3 (DOE 1996a) used the same data plus other supplemental data that were needed for the CCA PA calculations. The WIPP has been open and receiving waste since March 1999. Therefore, data from the emplaced waste through September 30, 2002, as obtained from the WWIS are included in this report.

#### 1.4 Document Organization

TWBIR - 2004 is organized to be consistent with the TWBIR Revision 3 (DOE 1996a). The contents of remaining sections in this document are summarized below.

- Section 2.0 presents the approach and methods used for gathering and compiling the WIPP waste disposal estimated inventory information, including data entry into the *Transuranic Waste Baseline Inventory Database Revision 2.1, Version 3.13, Data Version D.4.16* (LANL 2005) (hereafter referred to as TWBID Revision 2.1) and a description of the records system used to document the data, as well as analysis methods and results.
- Section 3.0 presents summaries of inventory information including the waste volumes, waste material parameters (WMPs), packaging materials, chemical components, radiological components, discussion regarding the non-WIPP and future potential TRU waste, and discussion regarding the materials used to emplace the waste in the WIPP.

#### 2.0 METHODS AND APPROACH

This document provides the information that was first reported as part of the WIPP CRA-2004 (DOE 2004c) and includes, as requested by the EPA, selected 2004 updates (Cotsworth 2005). The work was performed by Los Alamos National Laboratory – Carlsbad Operations (LANL-CO) and Sandia National Laboratories (SNL). The role of LANL-CO was to provide the updated inventory estimate and associated analyses using inventory information to support the PABC (Leigh et al. 2005a; Leigh et al. 2005b). The role of SNL was to perform the PA calculations, and provide documented results for the PABC. The technical work performed and documentation produced was governed by the SNL WIPP Quality Assurance (QA) Program developed for the SNL Nuclear Waste Management Program (NWMP). Under the SNL QA Program, LANL-CO Inventory personnel:

- 1. Collected TRU waste stream information from the TRU waste sites via site visits and additional communication, as needed;
- 2. Entered the information into the Transuranic Waste Baseline Inventory Database (TWBID) Revision 2.1 (LANL 2005), a quality assured electronic database;
- 3. Performed analyses of the information in support of the CRA-2004 (DOE 2004c) PA and PABC; and
- 4. Submitted the above results as official WIPP records acceptable for use in WIPP PA calculations.

The following sections describe the four basic process steps leading to the issuance of this report. Section 2.1 discusses information collection, compilation, verification, and validation. Section 2.2 explains the analyses that were performed to provide the information needed to support the PABC calculations (DOE 2004c; Leigh et al. 2005a; Leigh et al. 2005b). An extensive discussion on the evolution of the TWBID, a detailed discussion of the analyses and topics required supporting the PA, and listings of the supporting documents in the SNL WIPP Records Center are given in Appendix M.

#### 2.1 Collection, Compilation, Verification, and Validation of Inventory Information

The sections that follow describe the process of information collection, entry, verification, and validation used to ensure quality was maintained throughout the TRU waste inventory process. The information provided in Section 2.1.1 was specifically called out by SNL to address the PA information needs (Giambalvo 2002). The information was then collected from the TRU waste sites, entered into the TWBID Revision 2.1 (LANL 2005), and independently reviewed and verified by inventory personnel and validated by the sites. The process, by which information was collected, entered, reviewed, verified, and validated is described in Sections 2.1.2 through 2.1.4.

All of the activities described in this section were governed by SNL Procedure SP 9-6, *Baseline Inventory Report (BIR) Change Report Data Collection and Entry* (SNL 2003b). A collection of the documents compiled for each site is provided in Appendix M, including their respective Electronic Records Management System number (ERMS #).

#### 2.1.1 Information Requested for the Performance Assessment

The information requested for the TWBIR - 2004 were called out in a series of communications shown in Appendices G and H. The specific information needs for PA were given in Giambalvo (2002) and include the following:

- Waste stream volumes, broken down into categories of stored, projected, and anticipated waste (sum of stored and projected);
- Inventory of radionuclides by waste stream for both CH- and RH-TRU waste with the requirement that the radionuclides reported be decayed to a common base year;
- Inventory of all non-radioactive waste material parameters that were previously tracked in the TWBIR Revision 3 (DOE 1996a). In addition, identification of all waste streams containing pyrochemical salts;
- Inventory of any other non-radioactive waste materials that are discovered to account for a significant portion of a waste stream as a result of changes to the inventory;
- Inventory of cellulosics, plastics, and rubber (CPR) and other biodegradable materials used to facilitate emplacement of waste and magnesium oxide (MgO) in the WIPP;
- Inventory of organic complexing agents and oxyanions (sulfate, nitrate, and phosphate); and
- Waste-stream level inventories of radionuclides and non-radioactive waste material parameters for waste currently emplaced in the WIPP.

#### 2.1.2 Collection Method

For purposes of recertification, the EPA was primarily concerned with changes in the TRU waste inventory since the initial WIPP CCA (DOE 1996b) and certification. Each TRU waste site was sent a copy of their inventory information originally submitted in 1995 for the CCA, in the form of waste profiles from the TWBIR Revision (DOE 1995b). Guidance was included describing the information that each site needed to provide for the PA.

The sites were requested to indicate changes on the waste profiles, including any necessary explanation. The information from the updated waste profiles was entered into the TWBID Revision 2.1 (LANL 2005), independently verified, and were qualified under SNL NP 19-1, *Software Requirements* (SNL 2004). Upon completion, each site's update waste profile was returned to the appropriate DOE site representative for verification and signature.

Figure 2 illustrates the steps involved in data collection, processing, and reporting.

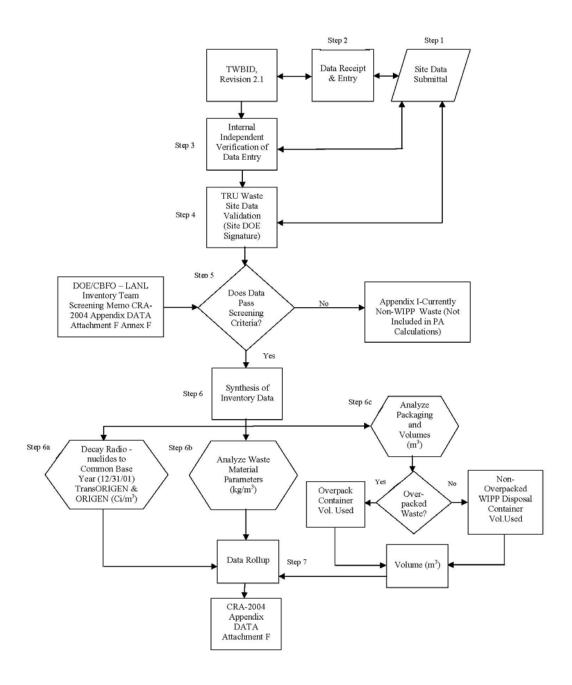


Figure 2. TRU Waste Inventory Process Flow Chart

The methodology used to collect information from the TRU waste sites and to enter this information into the TWBID Revision 2.1 (LANL 2005) is captured in procedure SP-9-6, *Baseline Inventory Report (BIR) Change Report Data Collection and Entry* (SNL 2003b). The process described in this procedure was initiated by a data call based on a request for updating the waste profile information that was included in the TWBIR Revision 2 (DOE 1995b). A second data call specifically requested information required by SNL (Giambalvo 2002). During this time, LANL-CO visited sites to facilitate collection of inventory information, and assist with questions and issues.

As a result of EPA's Completeness Review in 2003, the information from two large quantity sites was subsequently updated with new information and processing. This occurred during the review of the inventory information that was submitted as Attachment F to Appendix DATA of the CRA-2004 (DOE 2004c). An email from Hanford Richland Operations Office (Hanford RL) identified several waste profiles and associated waste streams that they failed to delete when this information was initially submitted. An analysis was performed (Lott 2004a) for these waste profiles, which were subsequently deleted, and therefore supporting the basis for this report.

In addition to the changes in the Hanford information, INL began processing pre-1970 buried waste for shipment to WIPP. Inventory information was collected from the site to update waste stream information on the IN-Z001 buried waste that had been included in the inventory update for the CRA-2004 as possible future waste but "non-WIPP shippable." The site responded to an email request for direction on how the waste stream would be reported in final form. Subsequent discussion and email exchanges resulted in the determination of the IN-Z001 to be separated into five waste streams by expected content based on AK documentation being collected at the site (Lott 2004b).

#### 2.1.3 Implementation of the Transuranic Waste Baseline Inventory Database, Revision 2.1

Inventory information collected from the sites included electronic media containing inventory information, notes from discussions with site waste management personnel, email correspondence, and site literature. The collected inventory information was then compiled and used to update the TWBID Revision 2.1 (LANL 2005) by deletion of waste profiles and associated waste streams that were no longer maintained and/or assimilated into other waste profiles, modification of waste streams, and addition of new waste streams. This information was submitted to the SNL WIPP Records Center.

Waste stream profile information was modified for sites that either had additional information or had modified TWBIR Revision 2 (DOE 1995b) waste streams. When discrepancies were found or sites requested changes to inventory information after preliminary inventory information was entered into the database, change information was documented on forms found in Procedure SP-9-6, *Baseline Inventory Report (BIR) Change Report Data Collection and Entry* (SNL 2003b). The inventory information in the database was updated to reflect this new information and the documentation supporting the changes was submitted to the SNL Records Center.

#### 2.1.4 Inventory Information Verification and Validation

After inventory information was entered and/or updated into the TWBID, an independent review was conducted of all changes that were made to the database. This review was tracked and documented in the database. When all changes were completed, the database record (waste profiles) were sent back to the sites for final verification and validation, and authentication by the DOE site representative. Documentation of validation was submitted to the SNL WIPP Records Center.

Additional records were collected from sites after the inventory was validated and authenticated by DOE site representatives. Records were received from each site explaining changes that had occurred with their inventory since the baseline data collection was performed in 1995. These records were also entered into the SNL WIPP Records Center and excerpts from these records are provided in Appendix C to this report.

#### 2.2 Analysis Methods

In addition to collecting and processing information from the TRU waste sites and securing the site information in a qualified database for future use, analyses were performed on the information to support the CRA-2004 (DOE 2004c) PA and PABC (Leigh et al. 2005a; Leigh et al. 2005b). For example, volume data from waste streams were rolled up into stored, projected, and anticipated categories; WMPs were rolled up to provide average waste material densities in the repository; radionuclides were decay-corrected to the end of calendar year 2001; and radionuclide activities were scaled for the full repository. Appendix M provides a detailed listing of all of the analyses that were required to produce the report that was submitted to EPA as Attachment F to Appendix DATA of the CRA-2004 (DOE 2004c), as well as the reports that supported the PABC.

The analyses were performed in accordance with AP-092, *Analysis Plan for the Transuranic Waste Inventory Update Report*, 2003 (SNL 2003a), and two additional analysis plans: AP-112 *Analysis Plan for CRA Response Activities* (SNL 2005a), and AP-113 *Analysis Plan for Inventory Reconciliation: Compliance Recertification Application* (SNL 2005b). AP-112 was written to respond to EPA questions during the CRA-2004 Completeness Review. AP-113 was written to address internal review comments on the document but that have had no impact on PA calculation (Crawford and Leigh 2004). AP-113 was updated as necessary as the information in TWBID Revision 2.1 (LANL 2005) was updated. Section 3.2.3, Chemical Components in Transuranic Waste, including cement analysis and revisions to oxyanions and complexing agents, and Section 3.5, Emplacement Materials, have been revised as needed according to AP-113.

#### 2.2.1 Radionuclide Decay Calculations

One of the needs for the radionuclide inventory information (see Section 2.1.1) for the PA is that all radionuclides reported by waste stream in TWBID Revision 2.1 (LANL 2005) be decayed to a common time frame. However, the site data provided consisted of radionuclide activity concentrations at the date of assay (if the waste stream was assayed) or at the date that the site calculated the activity concentrations. In order to make the radionuclide information complete,

the radionuclide activity concentration reported by the sites was exported from the TWBID Revision 2.1 into an external application (ORIGEN, ORNL 2002) where the radionuclide decay calculations were performed, and then imported back into the TWBID Revision 2.1. See Appendix M for more discussion concerning radionuclide decay calculation and reporting.

#### 2.2.2 Roll-up and Scaling Calculations

The roll-up and scaling calculations performed in support of this report were performed in the TWBID Revision 2.1 (LANL 2005). The computational methods that apply to the roll-up and scaling calculations were defined in the Computational Methodology (LANL 2003). This methodology document was used as the basis for drafting the design documentation required for software qualification of TWBID Revision 2.1. The queries that have been qualified for use in TWBID Revision 2.1 produce the data that are tabulated throughout this report and are documented in records submitted to the SNL WIPP Records Center.

#### **2.2.3** Chemical Component Calculations

A final request for information set forth in Giambalvo (2002) was that this report supply information about the chemical components of the waste such as that supplied in support of the CCA PA in the TWBIR Revision 3 (DOE 1996a). This included a calculation of the mass of organic ligands (complexing agents), the mass of oxyanions (nitrate, sulfate, and phosphate), and the mass of cement expected in the disposal volume for WIPP including the breakout of these components by waste stream.

The calculation of the estimated mass of organic ligands, oxyanions, and cement in the disposal volume for WIPP was governed by SNL Procedure NP 9-1, *Analyses* (SNL 2001). The reports are discussed in Sections 3.2.3.1, 3.2.3.2, and 3.2.3.3. Appendix A contains the results of an analysis of the inventory for pyrochemical salts. The waste streams containing the specific chemical components can be found in Appendix L.

#### 2.3 Records

The entire process of data collection, database development, and analysis leading up to the publication of this report has been documented and submitted to the SNL WIPP Records Center in accordance with SNL Procedure NP 17-1, *Records* (SNL 2003c). A detailed discussion of the records that have been used to generate this report can be found in Appendix M.

#### 3.0 TRANSURANIC WASTE INVENTORY ESTIMATES

This section presents the estimated TRU waste inventory that was collected on behalf of the DOE in support of CRA-2004 (2004c) and was subsequently updated for the PABC (Leigh et al. 2005a; Leigh et al. 2005b). The inventory information is stored in an electronic database, the TWBID Revision 2.1, Version 3.13, Data Version D.4.16 (LANL 2005), which has been qualified as discussed generally in Section 2 and in detail in Appendix M of this report.

This presentation of the TRU waste inventory consists of summaries of the inventory information collected from the TRU waste sites and the information calculated from the data submitted by the sites. Section 3.1 presents the volume information provided by the sites for

CH- and RH-TRU waste and the volume roll-ups to the WIPP repository capacity needed for PA. Section 3.2 presents the non-radiological waste inventory as reported by the sites and as needed for PA. This includes roll-ups of the waste materials (Section 3.2.1), roll-ups of the packaging materials (Section 3.2.2), and information about the chemical components of the waste (Section 3.2.3). Section 3.3 presents the radionuclide inventory reported by the sites and WIPP-level roll-ups of the radionuclide data needed for PA.

Section 3.4 presents a discussion of the non-WIPP and future potential waste, and provides the total volumes of the non-WIPP wastes. Section 3.10 provides information for the materials used to facilitate waste emplacement at the WIPP. The complete TRU waste inventory for all waste streams at all of the sites has been prepared in support of the CRA-2004 (DOE 2004c) and the PABC (Leigh et al. 2005a; Leigh et al. 2005b). That inventory is presented by site by waste stream in Appendices I, J, and K. Appendix I presents individual waste stream profiles for all of the waste streams that have been designated as non-WIPP waste streams, as discussed in Section 3.7. Appendix J presents individual waste stream profiles for all WIPP waste streams planned for emplacement in the WIPP. Appendix K presents individual waste stream profiles for all WIPP waste streams that were emplaced in the WIPP as of September 30, 2002.

#### 3.1 Transuranic Waste Volume Inventory Estimates

The volume information requested from the sites was broken down as follows:

- stored waste waste that currently exists at the TRU waste site, regardless of whether it is in its final form,
- projected waste waste that will be generated in the future, and
- anticipated waste stored plus projected.

Information for emplaced wastes was obtained from the WWIS. The total waste stream volume collected from the sites included stored  $(v_s)$  and projected  $(v_p)$  components as applicable for each TRU waste stream. The sites also reported both "As Generated" and "Final Form" (as opposed to "Final Waste Form") waste volumes for their waste streams (see Glossary for definitions). The "Final Form" volume accounts for the payload container (the volume the waste container occupies in the repository). Since PA only considers the waste volume that will be disposed in the WIPP, only the "Final Form" volumes were used of actual (reported by the site) and scaled (used in PA) waste volumes.

Table 1 presents the CH-TRU waste anticipated inventory volumes reported by the sites. Table 2 presents the RH-TRU waste anticipated inventory volume reported by the sites. The data presented in Tables 1 and 2 were derived by summing the waste-stream-level data into a site-level roll-up. For each site, all stored waste stream volumes  $(v_s)$  were summed to arrive at the total stored volume for the site,  $V_s$ . All projected waste stream volumes  $(v_p)$  were summed to arrive at the total projected volume for the site,  $V_p$ . The sum of the total stored volume and the total projected volume is the anticipated volume,  $V_a$ .

$$V_n = V_s + V_n \tag{1}$$

#### Where

 $V_a$  is the total anticipated volume

 $V_s$  is the total stored volume

 $V_p$  is the total projected volume.

Table 1. WIPP CH-TRU Waste Anticipated Inventory By Site

| TRU Waste Site  | Stored<br>Volumes<br>(Cubic<br>Meters) | Projected<br>Volumes<br>(Cubic<br>Meters) | Anticipated<br>Volumes<br>(Cubic<br>Meters) |
|---|--|---|---|
| Argonne National Laboratory - East                        | 1.1E+02                                | 8.0E+01                                   | 1.9E+02                                     |
| Argonne National Laboratory - West                        | 6.0E+00                                | 3.8E+01                                   | 4.4E+01                                     |
| Battelle Columbus Laboratories                            | 5.2E+00                                | 0.0E+00                                   | 5.2E+00                                     |
| Bettis Atomic Power Laboratory                            | 1.9E+01                                | 0.0E+00                                   | 1.9E+01                                     |
| Energy Technology Engineering Center                      | 2.3E+00                                | 0.0E+00                                   | 2.3E+00                                     |
| Hanford (Richland) Site                                   | 1.3E+04                                | 5.5E+03                                   | 1.8E+04                                     |
| Hanford (River Protection) Site                           | 3.9E+03                                | 0.0E+00                                   | 3.9E+03                                     |
| Idaho National Engineering and Environmental Laboratory   | 6.1E+04                                | 1.8E+04                                   | 7.8E+04                                     |
| Knolls Atomic Power Laboratory - Nuclear<br>Fuel Services | 5.5E+01                                | 1.7E+02                                   | 2.3E+02                                     |
| Lawrence Livermore National Laboratory                    | 3.5E+02                                | 2.1E+03                                   | 2.4E+03                                     |
| Los Alamos National Laboratory                            | 1.2E+04                                | 3.3E+03                                   | 1.5E+04                                     |
| Nevada Test Site  | 6.2E+02                                | 4.6E+02                                   | 1.1E+03                                     |
| Oak Ridge National Laboratory                             | 0.0E+00                                | 4.5E+02                                   | 4.5E+02                                     |
| Paducah Gaseous Diffusion Plant                           | 5.7E+00                                | 5.7E+00                                   | 1.1E+01                                     |
| Rocky Flats Environmental Technology Site                 | 5.4E+03                                | 2.8E+03                                   | 8.1E+03                                     |
| Sandia National Laboratories - Albuquerque                | 2.4E+01                                | 0.0E+00                                   | 2.4E+01                                     |
| Savannah River Site                                       | 1.3E+04                                | 2.4E+03                                   | 1.5E+04                                     |
| U.S. Army Material Command                                | 2.5E+00                                | 0.0E+00                                   | 2.5E+00                                     |
| University of Missouri Research Reactor                   | 1.5E+00                                | 0.0E+00                                   | 1.5E+00                                     |
| Totals  | 1.1E+05                                | 3.5E+04                                   | 1.4E+05                                     |
| Emplaced Volume   |  |   |   |
| Waste Isolation Pilot Plant                               | 7.7E+03                                |   | 7.7E+03                                     |
| Grand Totals  | 1.2E+05                                | 3.5E+04                                   | 1.5E+05                                     |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 2. WIPP RH-TRU Waste Anticipated Inventory By Site

| TRU Waste Site  | Stored<br>Volumes<br>(Cubic<br>Meters) | Projected<br>Volumes<br>(Cubic<br>Meters) | Anticipated<br>Volumes<br>(Cubic<br>Meters) |
|---|--|---|---|
| Argonne National Laboratory - East                      | 1.5E+01                                | 1.0E+02                                   | 1.2E+02                                     |
| Argonne National Laboratory - West                      | 2.4E+01                                | 6.9E+01                                   | 9.3E+01                                     |
| Battelle Columbus Laboratories                          | 4.4E+01                                | 1.8E+00                                   | 4.6E+01                                     |
| Bettis Atomic Power Laboratory                          | 2.0E+00                                | 0.0E+00                                   | 2.0E+00                                     |
| Energy Technology Engineering Center                    | 5.0E+00                                | 0.0E+00                                   | 5.0E+00                                     |
| Hanford (Richland) Site                                 | 3.8E+02                                | 1.1E+03                                   | 1.5E+03                                     |
| Hanford (River Protection) Site                         | 4.5E+03                                | 0.0E+00                                   | 4.5E+03                                     |
| Idaho National Engineering and Environmental Laboratory | 2.2E+02                                | 0.0E+00                                   | 2.2E+02                                     |
| Knolls Atomic Power Laboratory -<br>Schenectady         | 0.0E+00                                | 1.4E+02                                   | 1.4E+02                                     |
| Los Alamos National Laboratory                          | 1.3E+02                                | 0.0E+00                                   | 1.3E+02                                     |
| Oak Ridge National Laboratory                           | 0.0E+00                                | 6.6E+02                                   | 6.6E+02                                     |
| Sandia National Laboratories - Albuquerque              | 4.6E+00                                | 0.0E+00                                   | 4.6E+00                                     |
| Savannah River Site                                     | 0.0E+00                                | 2.3E+01                                   | 2.3E+01                                     |
| Totals  | 5.3E+03                                | 2.1E+03                                   | 7.4E+03                                     |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

## 3.1.1 Waste Isolation Pilot Plant-Level Roll-Up of Waste Inventory for Performance Assessment

The PA conducted in support of the WIPP recertification was predicated on the assumption that the WIPP repository will be filled to its design capacity at the time of closure. The design capacity for WIPP is 175,564 m³ (6,200,000 ft³) (U.S. Congress 1996) with a limit of 7,079 m³ (250,000 ft³) for RH-TRU waste as imposed by the Consultation and Cooperation Agreement (C&C Agreement) (DOE and State of New Mexico 1988), therefore the CH-TRU disposal limit is 168,485 m³ (5,950,000 ft³). The volume of anticipated plus emplaced waste (CH-TRU and RH-TRU) reported by the sites in support of the CRA-2004 (DOE 2004c) and the PABC (Leigh et al. 2005a; Leigh et al. 2005b) is less than the design capacity for the WIPP for CH-TRU waste, but more than the WIPP design capacity for RH-TRU waste. Therefore, scaling the CH-and RH-TRU waste in the WIPP is necessary for PA. The scaled inventory for PA is referred to as the disposal volume as described in the Glossary. The CH-TRU waste was scaled up since the anticipated volume is less than the allowable capacity. The RH-TRU waste was scaled down because the anticipated volume of RH-TRU waste exceeded the allowable limit. Scaling is performed only on projected waste.

Table 3 presents the volume scaling factors. The following sections discuss the calculation of the WIPP-level roll-up for CH- and RH-TRU waste.

**Table 3. Volume Scaling Factors** 

| CH WASTE                         |                         |  |  |  |  |
|----------------------------------|-------------------------|--|--|--|--|
| WIPP capacity for waste          | $1.68E+05 \text{ m}^3$  |  |  |  |  |
| Total stored volume              | 1.09E+05 m <sup>3</sup> |  |  |  |  |
| Total projected volume           | 3.47E+04 m <sup>3</sup> |  |  |  |  |
| Total emplaced volume            | 7.72E+03 m <sup>3</sup> |  |  |  |  |
| Volume scaling factor (SF CH )   | 1.48E+00                |  |  |  |  |
| Note: 1.68E+05 - (1.09E+05 + 7.7 | 2E+03) = 1.48E+00       |  |  |  |  |

Note:  $\frac{1.68E+05 - (1.09E+05 + 7.72E+03)}{(3.47E+04)} = 1.48E+00$ 

| RH WASTE   |                         |  |  |  |
|--|-------------------------|--|--|--|
| WIPP capacity for waste  | 7.08E+03 m <sup>3</sup> |  |  |  |
| Total stored volume  | 5.29E+03 m <sup>3</sup> |  |  |  |
| Total projected volume   | 2.08E+03 m <sup>3</sup> |  |  |  |
| Total emplaced volume  | $0.00E+00 \text{ m}^3$  |  |  |  |
| Volume scaling factor (SF RH)  | 8.61E-01                |  |  |  |
| Note: $\frac{7.08E+03 - (5.29E+03 + 0.00E+00)}{(2.08E+03)} = 8.61E-01$ |                         |  |  |  |

Data Source: TWBID Revision 2.1, Version 3.1, Data Version D.4.16, LANL 2005.

# 3.1.1.1 Calculation of Waste Isolation Pilot Plant-Level Roll-Up for Contact-Handled Transuranic Waste

The WIPP disposal limit for CH-TRU waste is 168,485 m<sup>3</sup> (5,950,000 ft<sup>3</sup>). Since the total reported volume of CH-TRU waste is less than the WIPP limit, the projected volume was scaled so the total volume equaled the CH-TRU waste disposal limit for WIPP. The scaling factor for CH-TRU waste was calculated using the following equation applied to WIPP waste streams.

The CH-TRU waste volume scaling factor was calculated as follows:

$$SF_{CH} = (CH-TRU Design Capacity Volume in m^3 - V_s - V_e)/V_p$$
 (2)

#### Where

 $SF_{CH}$  is the scaling factor for the CH-TRU waste volume as of September 30, 2002  $V_s$  is the total stored volume over all waste streams and all sites for CH-TRU waste  $V_e$  is the total emplaced volume over all waste streams and all sites for CH-TRU waste

 $V_p$  is the total projected volume over all waste streams and all sites for CH-TRU waste

The disposal inventory for a single CH-TRU waste stream was obtained by multiplying the CH-TRU waste projected volume by the appropriate scaling factor and adding that value to the stored and emplaced volumes for each waste stream.

$$V_{CH-Disposal} = SF_{CH}(v_p) + v_s + v_e$$
(3)

Where

 $v_{CH\text{-}Disposal}$  is the disposal volume for CH-TRU waste for a single waste stream is the scaling factor for the CH-TRU waste volume  $v_p$  is the projected inventory volume for a single CH-TRU waste stream before scaling is the stored inventory volume for a single CH-TRU waste stream  $v_e$  is the emplaced inventory volume for a CH-TRU single waste stream

The total CH-TRU waste disposal inventory,  $V_{\text{CH-Disposal}}$ , is the sum of the scaled CH-TRU waste stream volumes. The scaled waste stream volumes for the CH-TRU waste streams included in the estimate of volume for the PABC are given in Appendix E, Table E-1. All volume and scaling calculated results were derived from the information that was reported in the updated TWBID Revision 2.1 (LANL 2005) for each CH-TRU waste stream. The volume rollups and scaling calculations were performed under the SNL QA program as described in the Computational Methodology (LANL 2003).

## 3.1.2 Calculation of Waste Isolation Pilot Plant-Level Roll-up for Remote-Handled TransuranicWaste

The WIPP disposal limit for RH-TRU waste is 7,079 m³ (250,000 ft³) (U.S. DOE and State of New Mexico 1988). The reported volume of stored RH-TRU waste is less than the disposal limit but the sum of the stored and projected volumes is greater than the disposal limit. Since the total reported volume of RH-TRU waste is greater than the WIPP limit, the projected volume was scaled down so the total volume for PA equaled the RH-TRU waste disposal limit for WIPP. The scaling factor for RH-TRU waste was obtained after RH-TRU waste streams designated as non-WIPP waste streams (Appendix I) were removed for WIPP waste streams.

The scaling factor for RH-TRU waste was calculated using the following equation:

$$SF_{RH} = (RH-TRU Design Capacity Volume in m^3 - V_s - V_e)/V_p$$
 (4)

Where

| $SF_{RH}$ | is the scaling factor for the RH-TRU waste volume as of September 30, 2002      |
|-----------|---|
| $V_s$     | is the total stored volume over all waste streams and all sites for RH-TRU      |
|           | waste   |
| $V_e$     | is the total emplaced volume over all waste streams and all sites for RH-TRU    |
|           | waste   |
| $V_{p}$   | is the total projected volume over all waste streams and all sites for RH waste |

There is currently no RH-TRU waste emplaced in the WIPP, so the total RH-TRU waste emplaced volume,  $V_e$ , is zero.

The disposal inventory for a single RH-TRU waste stream was then obtained by multiplying the RH-TRU waste projected volume by the appropriate scaling factor and adding that value to the stored and emplaced volumes for each waste stream.

$$v_{RH-Disposal} = SF_{RH}(v_p) + v_s + v_e \tag{5}$$

Where

| V <sub>R</sub> H-Disposal | is the disposal volume for RH-TRU waste for a single waste stream         |
|---------------------------|---|
| $SF_{RH}$                 | is the scaling factor for the RH-TRU waste volume                         |
| $V_{S}$                   | is the stored inventory volume for a single RH-TRU waste stream           |
| $v_e$                     | is the emplaced inventory volume for a single RH-TRU waste stream         |
| $V_p$                     | is the projected inventory volume for a single RH-TRU waste stream before |
| •                         | scaling   |

Table 3 shows the calculation for the RH-TRU waste scaling factor and the RH-TRU waste volumes. The total RH-TRU waste disposal inventory, V<sub>RH-Disposal</sub>, is the sum of the scaled RH-TRU waste stream inventories. The scaled waste stream volumes for the RH-TRU waste streams included in the estimate of volume for the PABC is given in Appendix E, Table E-2. All volume and scaling calculated results were derived from the information that was reported in the updated TWBID Revision 2.1 (LANL 2005) for each RH-TRU waste stream. The volume rollups and scaling calculations were performed under the SNL QA program as described in the Computational Methodology (LANL 2003).

The total disposal inventory for the WIPP repository is the sum of the disposal volumes for CH- and RH-TRU wastes for all waste streams after scaling ( $V_{\text{CH-Disposal}}$ ).

#### 3.2 Non-Radiological Aspects of the Transuranic Waste Inventory Estimate

This section presents the non-radiological aspects of the TRU waste inventory that was collected on behalf of the DOE in support of the CRA-2004 (DOE 2004c) and the PABC (Leigh et al. 2005a; Leigh et al. 2005b). Section 3.2.1 presents the estimated inventory of waste materials. Section 3.2.2 presents the estimated inventory of packaging materials, and Section 3.2.3 presents the estimated inventory of chemical components.

The DOE has many reasons for obtaining and tracking non-radiological information about the TRU waste inventory destined for WIPP. For example, the DOE tracks the waste materials that go into the repository (i.e., CPR materials) because they may affect gas generation in the

repository. As another example, the DOE tracks the chemical components of the waste going into the repository because they affect the solubility of actinides in the waste. The DOE needs to know the non-radiological properties of the waste not only for PA but also to support safe transportation of the waste and operation of the facility.

The DOE has established a system of tracking the non-radiological waste parameters of the waste destined for WIPP. It involves a description of the waste streams in terms of their waste matrix codes (WMCs) and associated final waste forms, and their WMPs.

The WMPs, final waste forms, and WMCs are defined in the Glossary, and were previously described in the TWBIR Revision 2 (DOE 1995b). The final waste forms and WMCs are also described in detail in the DOE Waste Treatability Group Guidance (DOE 1995c).

The following WMP descriptions were excerpted from the TWBIR Revision 2 (DOE 1995b) and are operative in this document:

- Iron-base metal/alloys This designation is meant to include iron and steel alloys in the waste and does not include the waste container materials. This also includes an iron-base metallic phase associated with any vitrification process, if applicable;
- Aluminum-base metal/alloys Aluminum or aluminum-base alloys in the waste materials;
- Other metal/alloys All other metals found in the waste materials (such as copper, lead, zirconium, and tantalum). The lead portion of lead rubber gloves/aprons is also included in this category;
- Other inorganic material Includes inorganic non-metal waste materials such as concrete, glass, firebrick, ceramics, graphite, sand, and inorganic sorbents;
- Vitrified material This refers to waste that has been melted or fused at high temperatures with glass-forming additives such as soil or silica in appropriate proportions to result in a homogeneous glass-like matrix (note that any unoxidized metallic phases, if present, are included in the iron-base metal/alloys waste material parameter);
- Cellulosic material Includes those materials generally derived from high polymer plant carbohydrates. Examples are paper, cardboard, kimwipes, wood, cellophane, and cloth;
- Rubber material Includes natural or manmade elastic latex materials. Examples are Hypalon®, neoprene, surgeons' gloves, and leaded-rubber gloves (rubber part only);
- Plastic material Includes generally manmade materials, often derived from petroleum feedstock. Examples are polyethylene, polyvinylchloride, Lucite<sup>®</sup>, and Teflon<sup>®</sup>;
- Solidified inorganic material Includes any homogeneous materials consisting of sludge or aqueous-base liquids that are solidified with cement, Envirostone<sup>®</sup>, or other solidification agents. Examples are wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates. If a TRU waste site has not reported cement used as part of the solidification

process in the cement (solidified) waste material parameter, the density of the cement may be included in this field;

- Solidified organic material Includes cemented organic resins, solidified organic liquids, and sludges;
- Cement (solidified) Includes the cement used in solidifying liquids, particulates, and sludges. If the field for a solidified final waste form is left blank, it means that either cement is not the solidifying agent or that the cement is included in another waste material parameter field such as solidified inorganic material or other inorganic materials; and
- Soil Generally consists of naturally occurring soils that have been contaminated with radioactive waste materials at a high enough level to be considered TRU waste.

Packaging material parameters are described in further detail in Section 3.2.2 and Appendix D. Packaging material parameters were reported from the material parameter descriptions described in the TWBIR Revision 2 (DOE 1995b). These parameters were determined by weights defined as follows:

- Steel The weight of the steel part of the packaging from container information provided by the TRU waste sites. Any necessary overpacking is included in the weight;
- Plastic The weight of any plastic packaging submitted by the TRU waste sites. When the weight of a rigid liner is not given, a 90-mil high density polyethylene (HDPE) liner is assumed; and
- Lead The weight of the lead shielding in an RH-TRU canister is assumed if not provided by the TRU waste sites (see Appendix D for details).

Final waste form refers to the expected physical and chemical form of a waste stream after it is ready for disposal (i.e., once the waste has been processed, treated, or repackaged as necessary and is ready for shipment to WIPP). Each final waste form consists of one or more WMCs. The WMCs associated with each of the final waste forms listed below are included in the TWBIR Revision 3 (DOE 1996a, Table 1-2). The purpose of the final waste form is to group waste streams that are expected to have similar physical and chemical properties at the time of disposal. A final waste form was assigned to all reported WIPP waste streams by each of the sites. The final waste forms are:

- Solidified inorganic material,
- Salt.
- Solidified organic material,
- Soil,
- Uncategorized metal (metal waste other than lead and/or cadmium),

- Lead/cadmium metal,
- Inorganic non-metal,
- Combustible material,
- Graphite,
- Heterogeneous debris,
- Filter material,
- Excluded waste streams (excluded from disposal at WIPP), and
- Unknown (excluded from disposal at WIPP).

The purpose of the WMCs is to aid in categorizing mixed waste streams into groups based on their different physical and chemical characteristics. The sites assign the WMCs for all of their mixed waste streams and generally assign them for their non-mixed waste streams as well. The WMC system description and terminology used by the sites and the DOE is detailed in the *DOE Waste Treatability Group Guidance* (DOE 1995c). The WMCs are numerous and are therefore not all listed here. However, the summary category groups (referred to as matrix parameter categories in the "DOE Waste Treatability Group Guidance") are debris (S5000), homogeneous solids (S3000), and soil/gravel (S4000).

There are several WMCs in each of these summary category groups. For example, the debris (S5000) summary category group is divided into inorganic debris (S5100), organic debris (S5300), heterogeneous debris (S5400), and unknown/other debris (S5900). The inorganic debris group (S5100) is divided into metal debris (S5110), inorganic nonmetal debris (S5120), and unknown/other inorganic debris (S5190). The metal debris (S5110) group is divided into metal debris without lead or cadmium (S5111), and so on. These are detailed in DOE 1995c.

#### 3.2.1 Waste Materials

As part of the data call for TWBIR - 2004, the sites were asked to provide information about the materials contained in the waste. For each waste stream, they were asked to designate a final waste form and to provide the average density of each of the WMPs in the waste stream. In some cases, the sites provided minimum and maximum WMP densities.

For those waste streams where the site did not provide information regarding WMPs, the WMPs were estimated using the methods described in the Computational Methodology (LANL 2003) and in the WMP correction packages as identified in Appendix M. In summary, when partial information was provided (i.e., the minimum value or maximum value but not the average), it was used to calculate the average WMP densities (which were needed for PABC). When WMP density information was not provided for a waste stream, the average density was inferred by identifying an analogous waste stream, and mapping the WMP densities from that waste stream into the waste stream that lacked WMPs. For some sites such as LANL, where WMPs were reported in TWBIR Revision 2 (DOE 1995b), WMPs were traced back to that document. If this

historic information was not available, the other waste streams from that site were reviewed to identify waste streams with similar final waste forms, WMCs, and waste stream descriptions. If a similar waste stream was identified, the WMP densities from that waste stream (source) were attributed to the waste stream that lacked WMP densities (destination waste stream). In both cases, the packaging material parameters were edited using the waste packaging densities discussed in Section 3.2.2 as appropriate for the type of container(s) in the assigned waste stream.

Waste streams were sometimes comprised of more than one container type (for example, 55-gallon drums and standard waste boxes [SWBs]). In these instances, when the site provided only one set of WMP densities, those WMP densities were used for both container types, except for the packaging material parameters, which were modified for the container type using the waste packaging densities given in Section 3.2.2. The waste profiles in Appendices I and J (non-WIPP and WIPP waste streams, respectively) have a weighted average of the WMP densities for all container types used in a waste stream. If the site provided a WMP list for each container type, those lists were maintained in the TWBID Revision 2.1 and a weighted average of the WMPs for all container types was used in the waste profiles generated by TWBID, Revision 2.1, Data Version D.4.16 (LANL 2005).

In some cases, the sites provided incomplete WMP information from which the needed densities could be inferred. Specifically, the WMP average densities were inferred from minimum and maximum WMP data. However, the minimum and maximum values were not used for the CRA-2004 (DOE 2004c) PA or for the PABC (Leigh et al. 2005a; Leigh et. al. 2005b) and they were not reported in the TRU waste inventory estimate.

#### 3.2.1.1 Roll-Up of Final Waste Form Volumes

Table 4 presents a roll-up of the final waste form volumes for CH- and RH-TRU waste. Every WIPP waste stream in the TWBID Revision 2.1 (LANL 2005) has been assigned a final waste form. The total volume for each of the final waste form categories is calculated by summing the unscaled waste stream volume components (emplaced, stored, and projected) with the same final waste form designation for all waste streams, from all sites, destined for WIPP.

Table 4. Transuranic Waste Inventory for WIPP

| E' 117 ( E              | Gt IVI              | Projected         | Emplaced | Anticipated |
|-------------------------|---------------------|-------------------|----------|-------------|
| Final Waste Forms       | Stored Volumes      | Volumes           | Volumes  | Volumes     |
|                         | Contact Handled Was |                   |          | ,           |
| Combustible             | 4.3E+03             | 1.9E+03           | 6.1E+02  | 6.8E+03     |
| Filter                  | 9.9E+02             | 5.9E+02           | 3.4E+02  | 1.9E+03     |
| Graphite                | 1.2E+02             | 1.3E+00           | 0.0E+00  | 1.3E+02     |
| Heterogeneous Debris    | 4.9E+04             | 1.4E+04           | 5.7E+02  | 6.3E+04     |
| Inorganic Non-Metal     | 1.2E+04             | 6.8E+01           | 9.7E+02  | 1.2E+04     |
| Lead/Cadmium Metal      | 1.4E+02             | 3.2E+01           | 8.1E+01  | 2.6E+02     |
| Salt                    | 1.6E+02             | 1.9E+02           | 1.5E+03  | 1.8E+03     |
| Soils                   | 3.0E+02             | 9.7E+01           | 0.0E+00  | 4.0E+02     |
| Solidified Inorganics   | 3.9E+04             | 9.0E+03           | 3.3E+03  | 5.1E+04     |
| Solidified Organics     | 1.3E+03             | 3.9E+03           | 0.0E+00  | 5.2E+03     |
| Uncategorized Metal     | 2.4E+03             | 5.1E+03           | 3.6E+02  | 7.9E+03     |
| Total CH Volumes        | 1.1E+05             | 3.5E+04           | 7.7E+03  | 1.5E+05     |
|                         | Remote Handled Was  | te (cubic meters) |          |             |
| Combustible             | 1.8E+01             | 8.9E-01           | 0.0E+00  | 1.9E+01     |
| Filter                  | 8.9E+00             | 8.9E+00           | 0.0E+00  | 1.8E+01     |
| Heterogeneous Debris    | 6.1E+02             | 9.5E+02           | 0.0E+00  | 1.6E+03     |
| Inorganic Non-Metal     | 4.3E+01             | 4.4E+01           | 0.0E+00  | 8.6E+01     |
| Lead/Cadmium Metal      | 1.2E+01             | 7.1E+00           | 0.0E+00  | 1.9E+01     |
| Soils                   | 0.0E+00             | 2.0E+02           | 0.0E+00  | 2.0E+02     |
| Solidified Inorganics   | 4.5E+03             | 3.3E+02           | 0.0E+00  | 4.8E+03     |
| Solidified Organics     | 9.5E+00             | 0.0E+00           | 0.0E+00  | 9.5E+00     |
| Uncategorized Metal     | 8.4E+01             | 5.4E+02           | 0.0E+00  | 6.2E+02     |
| RH Total Volumes        | 5.3E+03             | 2.1E+03           | 0.0E+00  | 7.4E+03     |
| Total TRU Waste Volumes | 1.1E+05             | 3.7E+04           | 7.7E+03  | 1.6E+05     |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

#### 3.2.1.2 Waste Material Parameter Average Densities for Each Final Waste Form

Tables 5 through 24 present the WMP average densities for each final waste form in CH-TRU and RH-TRU waste. Tables 5 through 15 present CH-TRU waste. Tables 16 through 24 present RH-TRU waste. These tables include the rolled up WMP average densities for each final waste form and the rolled up waste volumes by site that contributed to the total final waste form volume. These volumes are broken out into stored and projected volumes, and the total volume of waste by site for each final waste form. The emplaced volume is shown separately. The final waste forms that have an emplaced waste CH-TRU waste volume are combustible, filter, heterogeneous, inorganic non-metal, lead/cadmium metal, salt, solidified inorganics, and uncategorized metal. No RH-TRU waste is emplaced at the WIPP at this time.

For example, Table 5 presents the WMP average densities for all CH-TRU waste streams with the combustible final waste form designation. The table shows roll-ups for stored, projected, and emplaced CH-TRU waste with the combustible final waste form designation for each site. This information is derived by summing the component volumes for each CH-TRU waste stream in the combustible category at each site.

Calculation of the WMP average densities in a final waste form requires combining data from the individual waste streams with the same final waste form designation as follows:

$${}^{WM}\boldsymbol{m}_{i}^{j} = ({}^{WM}\boldsymbol{p}_{i}^{j}) (\boldsymbol{v}_{i}^{j})$$

$${}^{WM}\boldsymbol{M}^{j} = \sum {}^{WM}\boldsymbol{m}_{i}^{j}$$

$${}^{WM}\boldsymbol{P}^{j} = {}^{WM}\boldsymbol{M}^{j} / \boldsymbol{V}^{j}$$

$$(6)$$

Where

| is the mass of the waste material (WM) in waste stream i with a final form   |
|--|
| designation j  |
| is the average density of the WM in waste stream i with a final form         |
| designation j  |
| is the volume of waste stream i (stored + projected + emplaced) with a final |
| form designation j   |
| is the total mass of WM in all waste streams with a final form designation j |
| is the total volume of all waste streams with a final form designation j     |
| is the average density of the WM in all waste streams with a final form      |
| designation j.   |
|  |

At the time of the inventory cutoff date (September 30, 2002, portions of some waste streams had been shipped to the WIPP and emplaced and others were yet to be characterized and shipped. If there was no emplaced waste for a waste stream as of the inventory date, then the emplaced volume in the equation above for that waste stream was zero. If there was no emplaced waste for any of the waste streams within the final waste forms considered, the total emplaced volume for the final waste form was also zero.

There are several notable differences in the WMP average densities for the roll-ups by final waste form when compared to the TWBIR Revision 3 (DOE 1996a). These changes are tabulated and discussed in Appendix B.

#### 3.2.1.3 WIPP-Scale Waste Material Parameter Densities

Performance assessments conducted in support of the WIPP have been predicated on the assumption that waste materials are distributed homogeneously throughout the repository. As a result, a WIPP-scale average estimated value for waste material densities is needed for PA. The estimated WIPP-scale WMP average densities for CH- and RH-TRU wastes in support of the PABC (Leigh et al. 2005a; Leigh et al. 2005b) are presented in Tables 25 and 26, respectively. These are equivalent to CRA-2004 (DOE 2004c) Tables F25 and F26 in Attachment F to Appendix DATA of TWBIR Revision 3 (DOE 1996a) Tables 2-2 and 2-3, respectively. Note also that the TWBIR Revision 3 (DOE 1996a) Tables 2-2 and 2-3 are the same as TWBIR Revision 2 (DOE 1995b, Tables 3-2 and 3-3, respectively). Although these tables in TWBIR Revisions 2 and 3 contain the minimum, maximum, and average densities for the WMP, this report contains only one value of density of the waste representing the best estimate for the WMP.

The WMP densities were combined, or "rolled up," for the whole repository according to the Computational Methodology (LANL 2003). Specifically, the roll-up of WMP densities required summing the WMP densities from all of the WIPP waste streams reported by the sites. A weighted average value for the WMP based on the individual waste stream volumes in the total inventory was calculated from the WMP densities provided by the sites as shown below:

$${}^{WM}m_i = ({}^{WM}p_i) (v_i)$$

$${}^{WM}M = \sum {}^{WM}m_i$$

$${}^{WM}P = {}^{WM}M/V$$
(7)

Where

 $^{WM}m_i$  is the mass of the WM in waste stream i is the density of the WM in waste stream i  $v_i$  is the unscaled volume of waste stream i (stored + projected + emplaced) is the total mass of WM in all waste streams V is the unscaled volume of all waste streams is the average density of the WM in all waste streams

| Table 5. WIPP Contact-Handled TRU Waste Profiles - Combustible |                                      |                               |                           |  |
|--|--------------------------------------|-------------------------------|---------------------------|--|
| Final Waste Form: Combustible                                  |                                      |                               |                           |  |
| Generator Site Waste   | Stored                               | Projected                     | Total                     |  |
| Site   | (cubic meters)                       | (cubic meters)                | (cubic meters)            |  |
| Argonne National Laboratory - East                             | 9.0E+01                              | 6.6E+01                       | 1.6E+02                   |  |
| Argonne National Laboratory - West                             | 5.4E+00                              | 4.4E+00                       | 9.8E+00                   |  |
| Battelle Columbus Laboratories                                 | 5.2E+00                              | 0.0E+00                       | 5.2E+00                   |  |
| Hanford (Richland) Site  | 9.8E+01                              | 0.0E+00                       | 9.8E+01                   |  |
| Los Alamos National Laboratory                                 | 2.9E+03                              | 1.4E+03                       | 4.3E+03                   |  |
| Rocky Flats Environmental Technology Site                      | 1.2E+03                              | 4.5E+02                       | 1.6E+03                   |  |
| Generator Site Waste Total                                     | 4.3E+03                              | 1.9E+03                       | 6.2E+03                   |  |
| Emplaced Waste   | G: 7                                 | Day to start                  | - T                       |  |
| Site   | Stored                               | Projected (cubic meters)      | Total                     |  |
| Waste Isolation Pilot Plant                                    | (cubic meters)<br>6.1E+02            | 0.0E+00                       | (cubic meters)<br>6.1E+02 |  |
| Emplaced Waste Total   | 6.1E+02                              | 0.0E+00                       | 6.1E+02                   |  |
| Total Waste Volume   | 4.9E+03                              | 1.9E+03                       | 6.8E+03                   |  |
| Waste Material Parameters                                      | Average Density (kg/m <sup>3</sup> ) |                               |                           |  |
| Iron-Base Metal/Alloys   | 6.2E+01                              |                               |                           |  |
| Aluminum-Base Metal/Alloys                                     | 6.9E-01                              |                               |                           |  |
| Other Metal/Alloys   | 1.4E+01                              |                               |                           |  |
| Other Inorganic Materials                                      | 1.0E+01                              |                               |                           |  |
| Cellulosics  | 3.0E+01                              |                               |                           |  |
|  | 1.2E+01                              |                               |                           |  |
| Rubber   |                                      | 1.2E+01                       |                           |  |
| Rubber<br>Plastics   |                                      | 4.4E+01                       |                           |  |
|  |                                      |                               |                           |  |
| Plastics   |                                      | 4.4E+01                       |                           |  |
| Plastics Solidified, Inorganic Matrix                          |                                      | 4.4E+01<br>6.6E-01            |                           |  |
| Plastics Solidified, Inorganic Matrix Cement (Solidified)      |                                      | 4.4E+01<br>6.6E-01<br>4.8E-02 |                           |  |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

| Table 6. WIPP Contact Handled             | TRU Waste Pi                | rofiles - Filte                | r                    |
|---|-----------------------------|--------------------------------|----------------------|
| Final Waste Form: Filter                  |                             |                                |                      |
| Generator Site Waste                      | Stored<br>(cubic            | Projected (cubic               | Total (cubic meters) |
| Site                                      | meters)                     | meters)                        | ·                    |
| Hanford (Richland) Site                   | 2.2E+01                     | 0.0E+00                        | 2.2E+01              |
| Lawrence Livermore National Laboratory    | 1.9E+02                     | 4.5E+02                        | 6.4E+02              |
| Los Alamos National Laboratory            | 3.3E+02                     | 0.0E+00                        | 3.3E+02              |
| Rocky Flats Environmental Technology Site | 4.5E+02                     | 1.4E+02                        | 5.8E+02              |
| Generator Site Waste Total                | 9.9E+02                     | 5.9E+02                        | 1.6E+03              |
| Emplaced Waste                            |                             |                                | •                    |
| Site                                      | Stored<br>(cubic<br>meters) | Projected<br>(cubic<br>meters) | Total (cubic meters) |
| Waste Isolation Pilot Plant               | 3.4E+02                     | 0.0E+00                        | 3.4E+02              |
| Emplaced Waste Total                      | 3.4E+02                     | 0.0E+00                        | 3.4E+02              |
| Total Waste Volume                        | 1.3E+03                     | 5.9E+02                        | 1.9E+03              |
| Waste Material Parameters                 | Aver                        | age Density (k                 | kg/m <sup>3</sup> )  |
| Iron-Base Metal/Alloys                    |                             | 8.5E+01                        |                      |
| Aluminum-Base Metal/Alloys                | 1.8E+01                     |                                |                      |
| Other Metal/Alloys                        | 5.1E+01                     |                                |                      |
| Other Inorganic Materials                 | 1.7E+01                     |                                |                      |
| Cellulosics                               | 4.7E+01                     |                                |                      |
| Rubber                                    | 6.2E+00                     |                                |                      |
| Plastics                                  | 1.5E+01                     |                                |                      |
| Solidified, Inorganic Matrix              | 5.9E-01                     |                                |                      |
| Compart (Colidical)                       | 0.0E+00                     |                                |                      |
| Cement (Solidified)                       |                             |                                |                      |
| Vitrified Vitrified                       |                             | 0.0E+00                        |                      |
| · · · · · · · · · · · · · · · · · · ·     |                             | 0.0E+00<br>3.3E-01             |                      |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version 4.1.16, LANL 2005

| Table 7. WIPP Contact Handled TRU Waste Profiles - Graphite |                         |                                 |         |  |
|---|-------------------------|---------------------------------|---------|--|
| Final Waste Form: Graphite                                  |                         |                                 |         |  |
| Generator Site Waste  | G. I                    | D : 4 1                         | Total   |  |
| Site  | (cubic meters)          | Stored Projected (cubic meters) |         |  |
| Rocky Flats Environmental Technology Site                   | 1.2E+02                 | 1.3E+00                         | 1.3E+02 |  |
| Generator Site Waste Total                                  | 1.2E+02                 | 1.3E+00                         | 1.3E+02 |  |
| Total Waste Volume  | 1.2E+02                 | 1.3E+00                         | 1.3E+02 |  |
| Waste Material Parameters                                   | Average Density (kg/m³) |                                 |         |  |
| Iron-Base Metal/Alloys                                      | 1.9E+01                 |                                 |         |  |
| Aluminum-Base Metal/Alloys                                  | 0.0E+00                 |                                 |         |  |
| Other Metal/Alloys  | 0.0E+00                 |                                 |         |  |
| Other Inorganic Materials                                   | 1.7E+02                 |                                 |         |  |
| Cellulosics   | 8.6E+01                 |                                 |         |  |
| Rubber  | 0.0E+00                 |                                 |         |  |
| Plastics  | 2.3E+01                 |                                 |         |  |
| Solidified, Inorganic Matrix                                | 7.1E+00                 |                                 |         |  |
| Cement (Solidified)   | 0.0E+00                 |                                 |         |  |
| Vitrified   | 0.0E+00                 |                                 |         |  |
| Solidified, Organic Matrix                                  | 0.0E+00                 |                                 |         |  |
| Soils   | 0.0E+00                 |                                 |         |  |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

|                                  | Table 8. W      | /IPP (   | Contact Handled TRU   | Waste Profiles -                     | Heterogeneous            | Debris               |
|----------------------------------|-----------------|----------|-----------------------|--------------------------------------|--------------------------|----------------------|
| Final V                          | Waste Form:     | Heter    | ogeneous Debris       |                                      |                          |                      |
|                                  | Gener           | ator Si  | te Waste              | Stored                               | Projected (cubic meters) | Total (cubic meters) |
|                                  |                 | Site     |                       | (cubic meters)                       |                          |                      |
|                                  | ne National Lab |          |                       | 6.2E-01                              | 3.4E+01                  | 3.4E+01              |
|                                  | Atomic Power    |          |                       | 1.9E+01                              | 0.0E+00                  | 1.9E+01              |
|                                  | Technology E    | _        | ring Center           | 1.5E+00                              | 0.0E+00                  | 1.5E+00              |
|                                  | d (Richland) S  |          |                       | 1.2E+04                              | 6.8E+02                  | 1.3E+04              |
| Labora                           | itory           |          | and Environmental     | 2.0E+04                              | 5.6E+03                  | 2.5E+04              |
| Knolls<br>Service                |                 | Labora   | ntory - Nuclear Fuel  | 5.5E+01                              | 1.7E+02                  | 2.3E+02              |
| Lawrer                           | nce Livermore   | Nationa  | al Laboratory         | 1.3E+02                              | 1.4E+03                  | 1.6E+03              |
|                                  | amos National   | Labora   | tory                  | 2.1E+03                              | 1.4E+03                  | 3.5E+03              |
|                                  | a Test Site     |          |                       | 6.1E+02                              | 4.6E+02                  | 1.1E+03              |
| Oak Ri                           | idge National L | aborate  | ory                   | 0.0E+00                              | 4.5E+02                  | 4.5E+02              |
| •                                |                 |          | Technology Site       | 1.0E+03                              | 1.2E+03                  | 2.2E+03              |
| Sandia                           | National Labor  | ratories | - Albuquerque         | 2.4E+01                              | 0.0E+00                  | 2.4E+01              |
| Savann                           | nah River Site  |          |                       | 1.3E+04                              | 2.4E+03                  | 1.5E+04              |
| U.S. A                           | rmy Material C  | Commai   | nd                    | 2.5E+00                              | 0.0E+00                  | 2.5E+00              |
| Univer                           | sity of Missour | i Resea  | rch Reactor           | 1.5E+00                              | 0.0E+00                  | 1.5E+00              |
|                                  |                 | Gener    | ator Site Waste Total | 4.9E+04                              | 1.4E+04                  | 6.3E+04              |
|                                  | Emplaced W      | aste     |                       |                                      |                          |                      |
| Site                             |                 |          |                       | Stored (cubic meters)                | Projected (cubic meters) | Total (cubic meters) |
| Waste                            | Isolation Pilot | Plant    |                       | 5.7E+02                              | 0.0E+00                  | 5.7E+02              |
|                                  |                 | E        | mplaced Waste Total   | 5.7E+02                              | 0.0E+00                  | 5.7E+02              |
| Total V                          | Waste Volume    | !        |                       | 4.9E+04                              | 1.4E+04                  | 6.3E+04              |
|                                  | Waste M         | aterial  | Parameters            | Average Density (kg/m <sup>3</sup> ) |                          |                      |
| Iron-Base Metal/Alloys           |                 |          | 2.4E+02               |                                      |                          |                      |
| Aluminum-Base Metal/Alloys       |                 |          | 3.1E+01               |                                      |                          |                      |
| Other Metal/Alloys               |                 |          | 5.7E+01               |                                      |                          |                      |
| Other Inorganic Materials        |                 |          | 5.3E+01               |                                      |                          |                      |
| Cellulosics                      |                 |          | 1.2E+02               |                                      |                          |                      |
| Rubber                           |                 |          | 3.0E+01               |                                      |                          |                      |
| Plastics                         |                 |          | 8.4E+01               |                                      |                          |                      |
| Solidified, Inorganic Matrix     |                 |          | 3.5E+00               |                                      |                          |                      |
| Cement (Solidified)              |                 |          | 1.5E-01               |                                      |                          |                      |
| Vitrified                        |                 |          |                       | 0.0E+00                              |                          |                      |
| Solidified, Organic Matrix Soils |                 |          |                       | 3.4E+00                              |                          |                      |
| Soils                            |                 |          |                       | 8.7E+01                              |                          |                      |

Data Source: TWBID Revision 2.1, Version 3.13 Data Version D.4.16, LANL 2005.

Table 9. WIPP Contact Handled TRU Waste Profiles - Inorganic Non-Metal

| Final Waste Form: Inorganic Non-Metal                   |                                      |                     |                 |  |
|---|--------------------------------------|---------------------|-----------------|--|
| Generator Site Waste                                    | Stored (cubic meters)                | Projected<br>(cubic | Total<br>(cubic |  |
| Site  | (cubic meters)                       | meters)             | meters)         |  |
| Hanford (Richland) Site                                 | 1.1E+01                              | 3.0E+01             | 4.1E+01         |  |
| Idaho National Engineering and Environmental Laboratory | 1.1E+04                              | 0.0E+00             | 1.1E+04         |  |
| Paducah Gaseous Diffusion Plant                         | 5.7E+00                              | 5.7E+00             | 1.1E+01         |  |
| Rocky Flats Environmental Technology Site               | 6.5E+02                              | 3.2E+01             | 6.8E+02         |  |
| Generator Site Waste Total                              | 1.2E+04                              | 6.8E+01             | 1.2E+04         |  |
| <b>Emplaced Waste</b>                                   | Stored (aubic motors)                | Projected<br>(cubic | Total<br>(cubic |  |
| Site  | (cubic meters)                       | meters)             | meters)         |  |
| Waste Isolation Pilot Plant                             | 9.7E+02                              | 0.0E+00             | 9.7E+02         |  |
| Emplaced Waste Total                                    | 9.7E+02                              | 0.0E+00             | 9.7E+02         |  |
| Total Waste Volume                                      | 1.3E+04                              | 6.8E+01             | 1.3E+04         |  |
| Waste Material Parameters                               | Average Density (kg/m <sup>3</sup> ) |                     |                 |  |
| Iron-Base Metal/Alloys                                  | 4.2E+00                              |                     |                 |  |
| Aluminum-Base Metal/Alloys                              | 1.2E-02                              |                     |                 |  |
| Other Metal/Alloys                                      | 5.0E+00                              |                     |                 |  |
| Other Inorganic Materials                               | 5.5E+01                              |                     |                 |  |
| Cellulosics   | 1.9E+01                              |                     |                 |  |
| Rubber  | 1.1E-01                              |                     |                 |  |
| Plastics  | 2.7E+00                              |                     |                 |  |
| Solidified, Inorganic Matrix                            | 9.0E-01                              |                     |                 |  |
| Cement (Solidified)                                     | 0.0E+00                              |                     |                 |  |
| Vitrified   | 7.1E+01                              |                     |                 |  |
| Solidified, Organic Matrix                              | 2.7E-05                              |                     |                 |  |
| Soils   | 1.8E-03                              |                     |                 |  |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 10. WIPP Contact Handled TRU Waste Profiles - Lead/Cadmium Metal

**Final Waste Form: Lead/Cadmium Metal Generator Site Waste Projected** Stored Total (cubic meters) (cubic meters) (cubic meters) Site Hanford (Richland) Site 1.7E+011.4E + 013.1E+01Los Alamos National Laboratory 3.7E+000.0E+003.7E+00Rocky Flats Environmental Technology Site 1.2E+021.8E+011.4E+02**Generator Site Waste Total** 1.4E+023.2E+011.8E+02**Emplaced Waste** Stored Projected **Total** (cubic meters) (cubic meters) (cubic meters) Site Waste Isolation Pilot Plant 8.1E+01 0.0E+008.1E+01 **Emplaced Waste Total** 8.1E+01 0.0E+008.1E+01 **Total Waste Volume** 2.2E+02 3.2E+01 2.6E+02 Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** 9.3E+02 Iron-Base Metal/Alloys Aluminum-Base Metal/Alloys 1.8E+011.5E+02Other Metal/Alloys Other Inorganic Materials 1.7E+01Cellulosics 4.8E+00Rubber 3.3E+00**Plastics** 9.1E+00 Solidified, Inorganic Matrix 8.2E-01 Cement (Solidified) 0.0E+00Vitrified 0.0E+001.1E-02 Solidified, Organic Matrix 1.6E-01

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 11. WIPP Contact Handled TRU Waste Profiles - Salt

**Final Waste Form:** Salt **Generator Site Waste** Stored **Projected** Total (cubic meters) (cubic meters) (cubic meters) Site Lawrence Livermore National Laboratory 1.2E+001.5E+011.6E+011.7E+02 Los Alamos National Laboratory 1.3E+023.0E+02Rocky Flats Environmental Technology Site 2.5E+010.0E+002.5E+01**Generator Site Waste Total** 1.6E+021.9E+023.4E+02**Emplaced Waste** Stored **Projected Total** (cubic meters) (cubic meters) (cubic meters) Site Waste Isolation Pilot Plant 0.0E+001.5E+03 1.5E+03**Emplaced Waste Total** 1.5E+030.0E+001.5E+031.9E+02 **Total Waste Volume** 1.7E+031.8E+03Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** Iron-Base Metal/Alloys 9.7E+00Aluminum-Base Metal/Alloys 5.7E-02 Other Metal/Alloys 3.6E+00Other Inorganic Materials 2.1E+02Cellulosics 1.4E+02Rubber 4.1E-02 **Plastics** 8.9E-01 Solidified, Inorganic Matrix 9.7E+00Cement (Solidified) 0.0E+00Vitrified 0.0E+00Solidified, Organic Matrix 1.2E+011.5E+00

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 12. WIPP Contact Handled TRU Waste Profiles - Soils

**Final Waste Form:** Soils **Generator Site Waste** Stored **Projected** Total (cubic meters) (cubic meters) (cubic meters) Site Hanford (Richland) Site 1.1E+020.0E+001.1E+02Idaho National Engineering and Environmental 0.0E+009.7E+019.7E+01Laboratory Los Alamos National Laboratory 0.0E+001.9E+021.9E+02**Generator Site Waste Total** 3.0E+02 9.7E+01 4.0E+02 **Total Waste Volume** 3.0E+024.0E+02 9.7E+01Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** Iron-Base Metal/Alloys 7.2E+01Aluminum-Base Metal/Alloys 0.0E+00Other Metal/Alloys 8.8E+00Other Inorganic Materials 1.5E+01Cellulosics 1.8E+01Rubber 2.9E-01 **Plastics** 2.4E+00Solidified, Inorganic Matrix 2.4E+01Cement (Solidified) 2.9E+01Vitrified 0.0E+00Solidified, Organic Matrix 5.5E+01Soils 5.8E+02

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 13. WIPP Contact Handled TRU Waste Profiles - Solidified Inorganics

**Final Waste Form:** Solidified Inorganics

| Generator Site Waste                                    | Stored (cubic meters)    | Projected (cubic meters) | Total (cubic meters) |  |
|---|--------------------------|--------------------------|----------------------|--|
| Site  | ` ′                      | ` ′                      | ` ′                  |  |
| Argonne National Laboratory - East                      | 2.4E+01                  | 1.3E+01                  | 3.7E+01              |  |
| Hanford (Richland) Site                                 | 1.9E+02                  | 3.0E+01                  | 2.2E+02              |  |
| Hanford (River Protection) Site                         | 3.9E+03                  | 0.0E+00                  | 3.9E+03              |  |
| Idaho National Engineering and Environmental Laboratory | 2.9E+04                  | 8.3E+03                  | 3.8E+04              |  |
| Lawrence Livermore National Laboratory                  | 1.4E+01                  | 1.8E+02                  | 1.9E+02              |  |
| Los Alamos National Laboratory                          | 4.5E+03                  | 2.4E+02                  | 4.7E+03              |  |
| Nevada Test Site  | 5.7E+00                  | 0.0E+00                  | 5.7E+00              |  |
| Rocky Flats Environmental Technology Site               | 8.1E+02                  | 2.7E+02                  | 1.1E+03              |  |
| Savannah River Site                                     | 2.4E+01                  | 0.0E+00                  | 2.4E+01              |  |
| Generator Site Waste Total                              | 3.9E+04                  | 9.0E+03                  | 4.8E+04              |  |
| <b>Emplaced Waste</b>                                   | Stored<br>(cubic meters) | Projected (cubic meters) | Total (cubic meters) |  |
| Site  | · ·                      |                          | · · ·                |  |
| Waste Isolation Pilot Plant                             | 3.3E+03                  | 0.0E+00                  | 3.3E+03              |  |
| Emplaced Waste Total                                    | 3.3E+03                  | 0.0E+00                  | 3.3E+03              |  |
| <b>Total Waste Volume</b>                               | 4.2E+04                  | 9.0E+03                  | 5.1E+04              |  |
| Waste Material Parameters                               | Average Density (kg/m³)  |                          |                      |  |
| Iron-Base Metal/Alloys                                  |                          | 3.6E+00                  |                      |  |
| Aluminum-Base Metal/Alloys                              |                          | 2.6E-02                  |                      |  |
| Other Metal/Alloys                                      |                          | 2.9E+00                  |                      |  |
| Other Inorganic Materials                               |                          | 2.7E+01                  |                      |  |
| Cellulosics   | 6.1E+00                  |                          |                      |  |
| Rubber  | 2.1E-02                  |                          |                      |  |
| Plastics  | 3.2E+00                  |                          |                      |  |
| Solidified, Inorganic Matrix                            | 2.4E+02                  |                          |                      |  |
| Cement (Solidified)                                     | 1.1E+02                  |                          |                      |  |
| Vitrified   | 3.5E-02                  |                          |                      |  |
|   | 1.0E+01                  |                          |                      |  |
| Solidified, Organic Matrix                              |                          | 1.0E+01                  |                      |  |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 14. WIPP Contact Handled TRU Waste Profiles -Solidified Organics

Final Waste Form: Solidified Organics

| Generator Site Waste Site                               | Stored<br>(cubic meters) | Projected (cubic meters) | Total (cubic meters) |
|---|--------------------------|--------------------------|----------------------|
| Energy Technology Engineering Center                    | 8.4E-01                  | 0.0E+00                  | 8.4E-01              |
| Hanford (Richland) Site                                 | 2.3E+00                  | 3.4E+02                  | 3.4E+02              |
| Idaho National Engineering and Environmental Laboratory | 1.1E+03                  | 3.5E+03                  | 4.7E+03              |
| Lawrence Livermore National Laboratory                  | 8.1E+00                  | 4.8E+00                  | 1.3E+01              |
| Los Alamos National Laboratory                          | 2.9E+01                  | 2.7E+01                  | 5.6E+01              |
| Rocky Flats Environmental Technology Site               | 1.4E+02                  | 4.4E+00                  | 1.4E+02              |
| Generator Site Waste Total                              | 1.3E+03                  | 3.9E+03                  | 5.2E+03              |
| Total Waste Volume                                      | 1.3E+03                  | 3.9E+03                  | 5.2E+03              |
| Waste Material Parameters                               | Average Density (kg/m³)  |                          |                      |
| Iron-Base Metal/Alloys                                  | 7.9E-01                  |                          |                      |
| Aluminum-Base Metal/Alloys                              | 6.1E-02                  |                          |                      |
| Other Metal/Alloys                                      | 3.5E-01                  |                          |                      |
| Other Inorganic Materials                               | 2.9E+01                  |                          |                      |
| Cellulosics   | 1.3E-01                  |                          |                      |
| Rubber  | 3.5E-02                  |                          |                      |
| Plastics  | 1.2E+02                  |                          |                      |
| Solidified, Inorganic Matrix                            | 6.6E+02                  |                          |                      |
| Cement (Solidified)                                     | 4.3E+01                  |                          |                      |
| Vitrified   | 0.0E+00                  |                          |                      |
| Solidified, Organic Matrix                              | 7.9E+02                  |                          |                      |
| Soils   | 6.4E+02                  |                          |                      |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

**Table 15. WIPP Contact Handled TRU Waste Profiles - Uncategorized Metal** 

Final Waste Form: Uncategorized Metal

| Generator Site Waste Site                               | Stored (cubic meters)                | Projected (cubic meters) | Total (cubic meters) |
|---|--------------------------------------|--------------------------|----------------------|
| Hanford (Richland) Site                                 | 1.1E+02                              | 4.4E+03                  | 4.5E+03              |
| Idaho National Engineering and Environmental Laboratory | 9.4E+00                              | 0.0E+00                  | 9.4E+00              |
| Los Alamos National Laboratory                          | 1.5E+03                              | 3.2E+01                  | 1.5E+03              |
| Rocky Flats Environmental Technology Site               | 7.9E+02                              | 6.7E+02                  | 1.5E+03              |
| Generator Site Waste Total                              | 2.4E+03                              | 5.1E+03                  | 7.5E+03              |
| Emplaced Waste  | Stored                               | Projected                | Total                |
| Site  | (cubic meters)                       | (cubic meters)           | (cubic meters)       |
| Waste Isolation Pilot Plant                             | 3.6E+02                              | 0.0E+00                  | 3.6E+02              |
| Emplaced Waste Total                                    | 3.6E+02                              | 0.0E+00                  | 3.6E+02              |
| <b>Total Waste Volume</b>                               | 2.8E+03                              | 5.1E+03                  | 7.9E+03              |
| Waste Material Parameters                               | Average Density (kg/m <sup>3</sup> ) |                          | $(m^3)$              |
| Iron-Base Metal/Alloys                                  | 1.1E+02                              |                          |                      |
| Aluminum-Base Metal/Alloys                              | 5.3E+00                              |                          |                      |
| Other Metal/Alloys                                      | 1.0E+02                              |                          |                      |
| Other Inorganic Materials                               | 2.4E+00                              |                          |                      |
| Cellulosics   | 1.1E+01                              |                          |                      |
| Rubber  | 1.6E+00                              |                          |                      |
| Plastics  | 7.4E+00                              |                          |                      |
| Solidified, Inorganic Matrix                            | 7.7E+00                              |                          |                      |
| Cement (Solidified)                                     | 0.0E+00                              |                          |                      |
| Vitrified   | 0.0E+00                              |                          |                      |
| Solidified, Organic Matrix                              | 6.4E-01                              |                          |                      |
| Soils   |                                      | 8.7E-03                  |                      |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 16. WIPP Remote Handled TRU Waste Profiles - Combustible

**Final Waste Form: Combustible Generator Site Waste** Stored **Projected** Total (cubic meters) (cubic meters) (cubic meters) Site **Battelle Columbus Laboratories** 1.7E+018.9E-01 1.8E+018.9E-01 Hanford (Richland) Site 8.9E-01 0.0E+00**Generator Site Waste Total** 1.8E+018.9E-01 1.9E+01 **Total Waste Volume** 1.8E+01 8.9E-01 1.9E+01 Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** Iron-Base Metal/Alloys 8.7E+00Aluminum-Base Metal/Alloys 7.6E+00Other Metal/Alloys 6.3E+00Other Inorganic Materials 9.2E+00Cellulosics 3.9E+01Rubber 2.3E+019.2E+01**Plastics** 0.0E+00Solidified, Inorganic Matrix Cement (Solidified) 1.7E+01Vitrified 0.0E+00Solidified, Organic Matrix 1.5E+00

1.4E+00

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

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Table 17. WIPP Remote Handled TRU Waste Profiles - Filter

**Final Waste Form: Filter Projected Generator Site Waste** Stored Total (cubic meters) (cubic meters) (cubic meters) Site Argonne National Laboratory - West 1.8E+008.9E+001.1E+01Battelle Columbus Laboratories 5.3E+00 0.0E+005.3E+00 Hanford (Richland) Site 1.8E+000.0E+001.8E+00**Generator Site Waste Total** 8.9E+00 8.9E+00 1.8E+01 **Total Waste Volume** 8.9E+00 8.9E+00 1.8E+01**Waste Material Parameters** Average Density (kg/m<sup>3</sup>) Iron-Base Metal/Alloys 3.3E+01Aluminum-Base Metal/Alloys 1.7E+014.3E+01 Other Metal/Alloys Other Inorganic Materials 1.1E+02Cellulosics 7.3E+01Rubber 1.9E+01**Plastics** 6.3E+00Solidified, Inorganic Matrix 0.0E+00Cement (Solidified) 7.7E+00Vitrified 0.0E+00Solidified, Organic Matrix 1.2E+010.0E+00Soils

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 18. WIPP Remote Handled TRU Waste Profiles - Heterogeneous Debris

**Heterogeneous Debris** 

**Generator Site Waste** Stored **Projected** Total (cubic meters) (cubic meters) (cubic meters) Site Argonne National Laboratory - East 1.5E+011.0E + 021.2E+02Argonne National Laboratory - West 6.2E+003.6E+01 4.3E+01 Bettis Atomic Power Laboratory 2.0E+00 2.0E+000.0E+00Energy Technology Engineering Center 8.9E-01 0.0E+008.9E-01 Hanford (Richland) Site 2.6E+023.8E+026.5E+02Idaho National Engineering and Environmental 2.0E+020.0E+002.0E+02Laboratory Knolls Atomic Power Laboratory -Schenectady 0.0E+001.4E+021.4E+02Los Alamos National Laboratory 1.2E+020.0E+001.2E+022.7E+022.7E+02Oak Ridge National Laboratory 0.0E + 00Sandia National Laboratories - Albuquerque 4.6E+000.0E+004.6E+00Savannah River Site 0.0E+002.3E+012.3E+01**Generator Site Waste Total** 6.1E+029.5E+021.6E+03**Total Waste Volume** 6.1E+02 9.5E+02 1.6E+03 Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** Iron-Base Metal/Alloys 1.7E+02Aluminum-Base Metal/Alloys 2.2E+01Other Metal/Alloys 4.5E+01

Plastics 3.5E+01

Solidified, Inorganic Matrix 5.6E+00

Cement (Solidified) 0.0E+00

Vitrified 0.0E+00

Solidified, Organic Matrix 2.6E+00

Soils 7.0E+01

1.7E+01

4.2E+01

3.0E+01

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

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**Final Waste Form:** 

Other Inorganic Materials

Cellulosics

Rubber

Table 19. WIPP Remote Handled TRU Waste Profiles - Inorganic Non-Metal

Final Waste Form: Inorganic Non-Metal

| Generator Site Waste           | Stored         | Projected          | Total          |
|--------------------------------|----------------|--------------------|----------------|
| Site                           | (cubic meters) | (cubic meters)     | (cubic meters) |
| Battelle Columbus Laboratories | 1.4E+01        | 8.9E-01            | 1.5E+01        |
| Hanford (Richland) Site        | 2.8E+01        | 4.3E+01            | 7.1E+01        |
| Generator Site Waste Total     | 4.3E+01        | 4.4E+01            | 8.6E+01        |
| Total Waste Volume             | 4.3E+01        | 4.4E+01            | 8.6E+01        |
| Waste Material Parameters      | Ave            | rage Density (kg/1 | $m^3$ )        |
| Iron-Base Metal/Alloys         |                | 1.6E+02            |                |
| Aluminum-Base Metal/Alloys     | 2.1E+01        |                    |                |
| Other Metal/Alloys             | 4.8E+01        |                    |                |
| Other Inorganic Materials      | 9.9E+02        |                    |                |
| Cellulosics                    | 3.9E+00        |                    |                |
| Rubber                         |                | 1.8E+00            |                |
| Plastics                       |                | 2.4E+01            |                |
| Solidified, Inorganic Matrix   | 1.5E+01        |                    |                |
| Cement (Solidified)            | 3.1E+00        |                    |                |
| Vitrified                      | 0.0E+00        |                    |                |
| Solidified, Organic Matrix     | 2.8E-01        |                    |                |
| Soils                          |                | 7.1E+00            |                |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 20. WIPP Remote Handled TRU Waste Profiles - Lead/Cadmium Metal

Final Waste Form: Lead/Cadmium Metal

| Generator Site Waste Site    | Stored (cubic meters) | Projected (cubic meters) | Total (cubic meters) |
|------------------------------|-----------------------|--------------------------|----------------------|
| Hanford (Richland) Site      | 1.2E+01               | 7.1E+00                  | 1.9E+01              |
| Generator Site Waste Total   | 1.2E+01               | 7.1E+00                  | 1.9E+01              |
| <b>Total Waste Volume</b>    | 1.2E+01               | 7.1E+00                  | 1.9E+01              |
| Waste Material Parameters    | Ave                   | rage Density (kg/        | m <sup>3</sup> )     |
| Iron-Base Metal/Alloys       |                       | 5.4E+03                  |                      |
| Aluminum-Base Metal/Alloys   |                       | 0.0E+00                  |                      |
| Other Metal/Alloys           | 7.4E+01               |                          |                      |
| Other Inorganic Materials    | 0.0E+00               |                          |                      |
| Cellulosics                  | 0.0E+00               |                          |                      |
| Rubber                       | 0.0E+00               |                          |                      |
| Plastics                     | 0.0E+00               |                          |                      |
| Solidified, Inorganic Matrix | 0.0E+00               |                          |                      |
| Cement (Solidified)          | 0.0E+00               |                          |                      |
| Vitrified                    | 0.0E+00               |                          |                      |
| Solidified, Organic Matrix   | 0.0E+00               |                          |                      |
| Soils                        | 0.0E+00               |                          |                      |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

| Table 21. WIPP Remote Ha      | ndled TRU Wast | te Profiles - Soils                  | 5              |  |
|-------------------------------|----------------|--------------------------------------|----------------|--|
| Final Waste Form: Soils       |                |                                      |                |  |
| Generator Site Waste          | Stored         | Projected                            | Total          |  |
| Site                          | (cubic meters) | (cubic meters)                       | (cubic meters) |  |
| Oak Ridge National Laboratory | 0.0E+00        | 2.0E+02                              | 2.0E+02        |  |
| Generator Site Waste Total    | 0.0E+00        | 2.0E+02                              | 2.0E+02        |  |
| Total Waste Volume            | 0.0E+00        | 2.0E+02                              | 2.0E+02        |  |
| Waste Material Parameters     | Ave            | Average Density (kg/m <sup>3</sup> ) |                |  |
| Iron-Base Metal/Alloys        |                | 0.0E+00                              |                |  |
| Aluminum-Base Metal/Alloys    |                | 0.0E+00                              |                |  |
| Other Metal/Alloys            |                | 0.0E+00                              |                |  |
| Other Inorganic Materials     | 0.0E+00        |                                      |                |  |
| Cellulosics                   | 0.0E+00        |                                      |                |  |
| Rubber                        |                | 0.0E+00                              |                |  |
| Plastics                      | 0.0E+00        |                                      |                |  |
| Solidified, Inorganic Matrix  | 0.0E+00        |                                      |                |  |
| Cement (Solidified)           | 0.0E+00        |                                      |                |  |
| Vitrified                     | 0.0E+00        |                                      |                |  |
| Solidified, Organic Matrix    |                | 0.0E+00                              |                |  |
| Soils                         |                | 1.3E+03                              |                |  |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

**Table 22. WIPP Remote Handled TRU Waste Profiles - Solidified Inorganics** 

| Final Waste Form: | <b>Solidified Inorganics</b> |
|-------------------|------------------------------|
|                   |                              |

| Generator Site Waste                                       | Stored                  | Projected      | Total          |
|--|-------------------------|----------------|----------------|
| Site   | (cubic meters)          | (cubic meters) | (cubic meters) |
| Argonne National Laboratory - West                         | 1.6E+01                 | 2.3E+01        | 3.9E+01        |
| Battelle Columbus Laboratories                             | 1.8E+00                 | 0.0E+00        | 1.8E+00        |
| Hanford (Richland) Site                                    | 1.5E+01                 | 1.2E+02        | 1.3E+02        |
| Hanford (River Protection) Site                            | 4.5E+03                 | 0.0E+00        | 4.5E+03        |
| Idaho National Engineering and Environmental<br>Laboratory | 8.9E-01                 | 0.0E+00        | 8.9E-01        |
| Oak Ridge National Laboratory                              | 0.0E+00                 | 1.9E+02        | 1.9E+02        |
| Generator Site Waste Total                                 | 4.5E+03                 | 3.3E+02        | 4.8E+03        |
| Total Waste Volume   | 4.5E+03                 | 3.3E+02        | 4.8E+03        |
| Waste Material Parameters                                  | Average Density (kg/m³) |                |                |
| Iron-Base Metal/Alloys                                     | 6.8E+00                 |                |                |
| Aluminum-Base Metal/Alloys                                 | 0.0E+00                 |                |                |
| Other Metal/Alloys   | 3.4E-02                 |                |                |
| Other Inorganic Materials                                  | 6.9E-01                 |                |                |
| Cellulosics  | 3.5E-03                 |                |                |
| Rubber   | 0.0E+00                 |                |                |
| Plastics   | 1.6E-02                 |                |                |
| Solidified, Inorganic Matrix                               | 9.2E+01                 |                |                |
| Cement (Solidified)  | 2.4E+00                 |                |                |
| Vitrified  | 1.8E-01                 |                |                |
| Solidified, Organic Matrix                                 | 3.1E-02                 |                |                |
| Soils  | 4.1E-03                 |                |                |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 23. WIPP Remote Handled TRU Waste Profiles - Solidified Organics Final Waste Form: Solidified Organics **Generator Site Waste** Stored **Projected** Total (cubic meters) (cubic meters) (cubic meters) Site 5.3E+00**Battelle Columbus Laboratories** 0.0E+005.3E+00 **Energy Technology Engineering Center** 4.1E+00 0.0E+004.1E+00 **Generator Site Waste Total** 9.5E+00 0.0E+009.5E+00 **Total Waste Volume** 9.5E+00 0.0E+009.5E+00 Average Density (kg/m<sup>3</sup>) **Waste Material Parameters** Iron-Base Metal/Alloys 4.9E+01Aluminum-Base Metal/Alloys 0.0E+00Other Metal/Alloys 0.0E+00Other Inorganic Materials 1.2E+01Cellulosics 2.0E+01Rubber 4.2E+00**Plastics** 2.0E+01Solidified, Inorganic Matrix 0.0E+00Cement (Solidified) 1.4E+02Vitrified 0.0E+00Solidified, Organic Matrix 1.7E+02

0.0E+00

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

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 Table 24. WIPP Remote Handled TRU Waste Profiles - Uncategorized Metal

| Generator Site Waste                                       | Stored         | Projected        | Total                     |
|--|----------------|------------------|---------------------------|
| Site   | (cubic meters) | (cubic meters)   | (cubic meters)            |
| Battelle Columbus Laboratories                             | 8.9E-01        | 0.0E+00          | 8.9E-01                   |
| Hanford (Richland) Site                                    | 6.1E+01        | 5.4E+02          | 6.0E+02                   |
| Idaho National Engineering and Environmental<br>Laboratory | 2.2E+01        | 0.0E+00          | 2.2E+01                   |
| Generator Site Waste Total                                 | 8.4E+01        | 5.4E+02          | 6.2E+02                   |
| <b>Total Waste Volume</b>                                  | 8.4E+01        | 5.4E+02          | 6.2E+02                   |
| Waste Material Parameters                                  | Ave            | rage Density (kg | / <b>m</b> <sup>3</sup> ) |
| Iron-Base Metal/Alloys                                     |                | 3.6E+01          |                           |
| Aluminum-Base Metal/Alloys                                 | 4.5E-03        |                  |                           |
| Other Metal/Alloys   | 5.6E+02        |                  |                           |
| Other Inorganic Materials                                  | 4.3E-01        |                  |                           |
| Cellulosics  |                | 7.4E-01          |                           |
| Rubber   |                | 5.1E-01          |                           |
| Plastics   |                | 7.8E-01          |                           |
| Solidified, Inorganic Matrix                               |                | 3.1E-02          |                           |
| Cement (Solidified)  |                | 0.0E+00          |                           |
| Vitrified  |                | 0.0E+00          |                           |
| Solidified, Organic Matrix                                 |                | 0.0E+00          |                           |
| Soils  |                | 6.1E-01          |                           |

Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

| Waste Material Parameters    | Average Density (kg/m <sup>3</sup> ) |
|------------------------------|--------------------------------------|
| Iron-Base Metal/Alloys       | 1.1E+02                              |
| Aluminum-Base Metal/Alloys   | 1.4E+01                              |
| Other Metal/Alloys           | 3.2E+01                              |
| Other Inorganic Materials    | 4.0E+01                              |
| Cellulosics                  | 6.0E+01                              |
| Rubber                       | 1.3E+01                              |
| Plastics                     | 4.3E+01                              |
| Solidified, Inorganic Matrix | 1.1E+02                              |
| Cement (Solidified)          | 3.9E+01                              |
| Vitrified                    | 5.8E+00                              |
| Solidified, Organic Matrix   | 3.3E+01                              |
| Soils                        | 1.1E+02                              |
| Container Materials          |                                      |
| Steel                        | 1.7E+02                              |
| Plastic                      | 1.7E+01                              |
| Lead                         | 1.3E-02                              |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

| <b>Waste Material Parameters</b> | Average Density (kg/m <sup>3</sup> ) |
|----------------------------------|--------------------------------------|
| Iron-Base Metal/Alloys           | 5.9E+01                              |
| Aluminum-Base Metal/Alloys       | 5.0E+00                              |
| Other Metal/Alloys               | 5.7E+01                              |
| Other Inorganic Materials        | 1.6E+01                              |
| Cellulosics                      | 9.3E+00                              |
| Rubber                           | 6.7E+00                              |
| Plastics                         | 8.0E+00                              |
| Solidified, Inorganic Matrix     | 6.2E+01                              |
| Cement (Solidified)              | 1.9E+00                              |
| Vitrified                        | 1.2E-01                              |
| Solidified, Organic Matrix       | 8.3E-01                              |
| Soils                            | 5.0E+01                              |
| <b>Container Materials</b>       |                                      |
| Steel                            | 5.4E+02                              |
| Plastic                          | 3.1E+00                              |
| Lead                             | 4.2E+02                              |

Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

## 3.2.2 Packaging Materials

The PA assumption that materials are distributed homogeneously throughout the repository also applies to packaging materials. As a result, a WIPP-scale average value for packaging material densities is needed for PA. The WIPP-scale packaging (container) material densities for CH- and RH-TRU wastes in support of the PABC (Leigh et al. 2005a; Leigh et al. 2005b) are presented in Table 27. This information is equivalent to that presented in Table 1-3 in TWBIR Revision 2 (DOE 1995b).

Analysis of the packaging material information submitted by the sites identified inconsistencies in reporting among the sites. Therefore, adjustments were made at the waste-stream level to achieve consistency among the waste streams. In particular, a consistent set of densities for packaging materials for different types of containers was used unless otherwise reported by the site. Table 1-3 of the TWBIR Revision 2 (DOE 1995b) identified the packaging materials and packaging material densities for the waste containers that were being used at that time. These values were also used in TWBIR - 2004. Since the time of the TWBIR Revision 2, the sites have begun using ten-drum overpacks (TDOPs) for packaging waste. The calculated packaging material densities for TDOPs are presented in Appendix D, Packaging Materials.

In addition, sites have also reported that they use 85- and 100-gallon drum overpacks. The CH Transuranic Package Transporter-II (TRUPACT-II) Authorized Methods for Payload Control (TRAMPAC) document (DOE 2004b) has been revised to add the 85-gallon drum as an authorized payload container for shipment in the TRUPACT-II, and to add the 100-gallon drum as an authorized payload container in the HalfPACT and the TRUPACT-II. The applicable section of the TRAMPAC document has also been revised to specify a range of sizes (75 to 88 gallons) for a container identified as an "85-gallon drum."

Development of the TRUPACT-III is underway, which will allow shipment of standard large boxes (SLBs) to WIPP for disposal. The CPR estimates for SLBs have not been included in this inventory estimate, but will be included in the next update where applicable.

#### 3.2.3 Chemical Components in Transuranic Waste

As part of the data call for TWBIR - 2004, the sites were asked to provide information about the chemical components of the waste. The sites were asked about complexing agents (acetate, citrate, oxylate, ethylenediaminetetraacetic acid (EDTA), oxyanions (nitrate, sulfate, and phosphate), cement, and pyrochemical salts.

| Table 27. | <b>Assumed Packaging Material Densities</b> <sup>1</sup> |
|-----------|--|
|           |  |

| Container Configuration                            | Steel (kg/m³) | Plastic (kg/m <sup>3</sup> ) | Lead (kg/m³) | Volume (m <sup>3</sup> ) <sup>2</sup> |
|--|---------------|------------------------------|--------------|---------------------------------------|
| 55-gallon drum                                     | 131           | 37                           | 0            | 0.208                                 |
| SWB (direct load)                                  | 154           | 1.2                          | 0            | 1.89                                  |
| SWB (overpack 4 55-gallon drums)                   | 211           | 16                           | 0            | 1.89                                  |
| RH-TRU Waste Canister (direct load)                | 434           | 0                            | 464          | 0.89                                  |
| RH-TRU Waste Canister (overpack 3 55-gallon drums) | 525           | 26                           | 464          | 0.89                                  |
| 85-gallon drum                                     | 114           | 0                            | 0            | 0.322                                 |
| 100-gallon drum                                    | 114           | 0                            | 0            | 0.379                                 |
| Ten-Drum Overpacks                                 | 218           | 16                           | 0            | 4.79                                  |

<sup>&</sup>lt;sup>1</sup> This table was used when sites did not report container volumes. Information in this table was taken from DOE (1995) and Appendix D of this document.

This section presents the summary of the chemical components that are present in the solidified TRU waste inventory in support of the PABC (Leigh et al. 2005a; Leigh; et al. 2005b). Specifically, complexing agents, oxyanions, and cement are calculated as the sum of the constituents found in anticipated waste scheduled for delivery to WIPP and any waste that has already been placed in the repository. The information provided is based on input from the TWBIR Revision 3 (DOE 1996a), TWBID Revision 2.1 (DOE 1995b), and analyses of this information. The methods used to estimate the masses of cement, complexing agents, and oxyanions are discussed in Howard (2005) for cement, Crawford and Leigh (2003) for complexing agents, and Crawford (2005) for oxyanions, respectively. A brief discussion of pyrochemical salts is presented in Appendix A.

## 3.2.3.1 Cement Content in Solidified Transuranic Waste

The PA for the CRA-2004 (DOE 2004c) and the PABC (Leigh et al. 2005a; Leigh et al. 2005b) required an estimate of the mass of cement in waste expected for disposal in the repository. This estimate was updated for the PABC and is reported in this report. An estimate of the cement mass for the CCA (DOE 1996b) was given in Appendix B-7 of the TWBIR Revision 3 (DOE 1996a). While the waste stream volumes reported by the TRU waste sites in TWBIR - 2004 have changed when compared to the TWBIR Revision 3 volumes, the waste streams identified by the sites at the time of the TWBIR Revision 3 as containing cement have not changed. However, the sites have not reported cement densities consistently over time. Therefore an analysis (Howard 2005) was performed to identify waste streams that contained cement using newly reported cement densities where they were available and assigning cement densities to waste streams where cement was listed in waste descriptions but not reported as waste material parameters. The total estimated mass of cement in the scaled solidified waste streams for TWBIR - 2004 is  $8.80 \times 10^6 \text{ kg} (1.94 \times 10^7 \text{ lb})$  (see Table 29). This estimate of cement mass in the WIPP repository is slightly larger than the estimate made for the CCA (DOE 1996b)  $(8.54 \times 10^6 \text{ kg} [1.88 \times 10^7 \text{ lb}])$ .

<sup>&</sup>lt;sup>2</sup> Container volumes differ from WWIS container volumes.

## 3.2.3.2 Complexing Agents (Organic Ligands) in Transuranic Waste

The DOE tracks the mass of complexing agents going into the repository because of their impact on solubility of actinides in the waste. In the latest request by DOE for data from the sites, none of the sites updated or modified their estimates of complexing agents in the waste streams that had been reported previously in the TWBIR Revision 3 (DOE 1996a). When applicable, the sites did report the expected masses of complexing agents in waste streams added to their inventory since publication of the TWBIR Revision 3.

The TWBIR Revision 3 (DOE 1996a) contained information on complexing agents that was used in the PA in support of the CCA (DOE 1996b). TWBIR Revision 3 presented two estimates for complexing agents in the WIPP repository: one assuming reduction of complexing agents due to thermal treatment and one without that assumption. Since publication of the TWBIR Revision 3, the DOE's strategy for wastes at the INL has changed, and incineration operations for INL TRU waste did not occur as planned. Therefore, the data reported in Appendix B-4 of the TWBIR Revision 3 without the thermal treatment assumption was used in the calculation of mass of complexing agents for the CRA-2004 (DOE 2004c) and the PABC (Leigh et al. 2005a; Leigh et al. 2005b) as reported in Table 28.

The inventory information reported in TWBIR Revision 3 (DOE 1996a) did not provide a breakout of the waste streams that contained complexing agents. Therefore, an analysis was completed (Crawford 2004) to delineate this waste stream information. Appendix L, Table L-1, includes the waste streams containing complexing agents with the waste-stream specific information supplied by the sites for the CRA-2004 (DOE 2004c) and the PABC inventory (Crawford 2004).

Only two sites reported complexing agents in waste streams: Rocky Flats Environmental Technology Site (RFETS) and Hanford Office of River Protection (Hanford RP). For their new waste streams, RFETS reported that EDTA might be present at trace levels (< 1 wt%) in their waste. Hanford RP identified sodium acetate and sodium oxalate in their new waste streams. The total mass of acetic acid, sodium acetate, citric acid, sodium citrate, oxalic acid, sodium oxalate, and sodium EDTA estimated for the WIPP repository are reported in Table 28.

Table 28. Mass of Potential Complexing Agents in the WIPP Repository

| Compound       | RFETS (kg) | LANL (kg) | Hanford RP<br>(kg) | Total (kg) |
|----------------|------------|-----------|--------------------|------------|
| Acetic Acid    | 132        | 10        |                    | 142        |
| Sodium Acetate | 1,110      |           | 7,400              | 8,510      |
| Citric Acid    | 90         | 1,100.5   |                    | 1,190.5    |
| Sodium Citrate | 400        |           |                    | 400        |
| Oxalic Acid    | 90         | 13,706    |                    | 13,796     |
| Sodium Oxalate |            |           | 33,940             | 33,940     |
| EDTA           | 25.6       |           |                    | 25.6       |

Data Source: Crawford and Leigh (2003)

Only a slight increase in EDTA was reported with this updated information over that reported in TWBIR Revision 3 (DOE 1996a). The increase comes from one waste stream at RFETS that contains trace

amounts of EDTA and is reported as the upper limit of expected concentration. Waste from Hanford RP waste tanks is also included in Table 28, and represents a significant increase in sodium acetate and sodium oxalate that had not been reported for the TRU inventory in TWBIR Revision 3.

### 3.2.3.3 Mass of Oxyanions in Transuranic Waste

The PABC (Leigh et al. 2005a; Leigh et al. 2005b) required an estimate of the mass of nitrate, sulfate, and phosphate in waste expected for disposal in the repository. An estimate of the oxyanion masses for the CCA (DOE 1996b) was given in Appendix B-6 of the TWBIR Revision 3 (DOE 1996a). The TRU waste sites did not report any new information about oxyanions for TWBIR - 2004, with the exception of waste streams reported by Hanford RP and LANL, and revised values for a waste stream at RFETS. An analysis was completed to determine the oxyanions by waste stream (Crawford 2005). The mass of nitrate, sulfate, and phosphate in the repository was calculated for the PABC as the sum of the mass of nitrate, sulfate, and phosphate in the TWBIR Revision 3 (DOE 1996a) adjusted for the new waste stream volumes from this update plus the mass of these elements reported by the sites for their new waste streams. Appendix L, Table L-2, includes the waste streams with the waste-stream specific information about the mass of nitrate, sulfate, and phosphate that was supplied by the sites for TWBIR - 2004. Table 29 presents the mass of nitrate, sulfate, phosphate and cement for disposal in the WIPP repository for the PABC.

The estimate of nitrate mass in the WIPP repository  $(2.67 \times 10^6 \text{ kg } [5.88 \times 10^6 \text{ lb}])$  is larger than the estimate made for the CCA (DOE 1996b) which was  $1.62 \times 10^6 \text{ kg } (3.57 \times 10^6 \text{ lb})$ . The increase in nitrate mass is due primarily to larger volumes projected for existing waste streams and the added waste streams from Hanford RP. The estimate of sulfate mass in the WIPP repository  $(4.43 \times 10^5 \text{ kg } [9.76 \times 10^5 \text{ lb}])$  is less than the estimate made for the CCA, which was  $6.33 \times 10^5 \text{ kg } (1.39 \times 10^6 \text{ lb})$ . The estimate of phosphate mass in the WIPP repository  $(1.05 \times 10^5 \text{ kg } [2.31 \times 10^5 \text{ lb}])$  is significant when compared to the CCA. There was no phosphate of reportable quantity given by the generator sites in the TWBIR Revision 3 (DOE 1996a). The primary source of phosphate in the current estimate is the tank waste from Hanford RP.

Table 29. Mass of Oxyanions and Cement In the WIPP Disposal Inventory

| Chemical  | Mass Contained in the Disposal Inventory |
|-----------|--|
| Component | (kg)                                     |
| Nitrate   | $2.67 \times 10^6$                       |
| Sulfate   | $4.43 \times 10^5$                       |
| Phosphate | $1.05 \times 10^5$                       |
| Cement    | $8.80 \times 10^6$                       |

Data Sources: Crawford (2005) and Howard (2005)

# 3.2.3.4 Pyrochemical Salts in Waste Isolation Pilot Plant Transuranic Waste

Five waste streams at LANL, one waste stream at Lawrence Livermore National Laboratory (LLNL), and seven waste streams at RFETS have been identified as containing pyrochemical salts. The pyrochemical salt waste streams are reported in Appendix A.

## 3.3 Transuranic Waste Radionuclide Inventory

The sites were asked to provide information about the radiological components in the waste they intend to ship to WIPP. For each waste stream they were asked to specify the radionuclide activity concentrations (in Ci/m³) and to provide the generation or last assay date for each waste stream. In some cases, the sites provided all of the information required; in other cases, they did not.

Where the sites did not provide adequate information regarding the radiological components of a waste stream, radionuclide activities were estimated using the methods described in the Computational Methodology (LANL 2003) and in the radionuclide correction package as identified in Table M.5 in Appendix M. As more information became available regarding TWBIR Revision 2 (DOE 1995b) waste streams and how they had been reassigned for TWBIR - 2004, the historic radionuclide data were used to define radionuclide activity concentrations (Sparks 2004; Trone 2004; Leigh and Trone 2004).

When no other radionuclide information was available, radionuclide data for comparable waste streams at the same site were mapped into waste streams with missing data. For 73 waste streams without data, this mapping was accomplished by first matching handling (RH and CH) and then the WMC for each site. Then, if there were no matches, the waste description was used to find a comparable waste stream. In this way, a waste stream requiring radionuclide data was matched to a waste stream that was generated by the same or very similar process.

All of the radionuclide data were decayed to a common base year of CY 2001 (December 31, 2001) using Oak Ridge National Laboratory Isotope Generation and Depletion Code, Version 2.2 (hereafter referred to as ORIGEN 2.2) (Croff 1983; Croff 1980). ORIGEN 2.2 is a computer code that calculates the buildup and decay of radionuclides. ORIGEN 2.2 uses a matrix exponential method to solve a large system of coupled, linear, first-order ordinary differential equations with constant coefficients.

The ORIGEN 2.2 half-life data are identical to the half-life data used (via ORIGEN 2.1; ORNL 2002) for the TWBIR Revision 3 (DOE 1996a) in 1996. The results obtained for data in 1996 using ORIGEN 2.1 and those obtained using the current version of ORIGEN 2.2 for 1996 data would be identical. Therefore, the only differences expected between the data obtained in 1996 using ORIGEN 2.1 and those reported for TWBIR - 2004 using ORIGEN 2.2 are those related to time.

Updated waste stream volumes were used to calculate waste stream radionuclide activity from the decayed ORIGEN 2.2 radionuclide activity concentrations as shown in the following equation:

$$a(RN)_{Disposal} = \alpha(RN) \cdot v_{Disposal} \tag{8}$$

Where

 $a(RN)_{Disposal}$  is the activity of the radionuclide RN in the scaled waste stream volume is the decayed radionuclide activity in Ci/m<sup>3</sup> from ORIGEN 2.2 for radionuclide RN is the waste stream disposal volume for CH-TRU or RH-TRU waste

More information on how  $v_{Disposal}$  was calculated can be found in Section 3.1.

The WIPP-scale (see section 3.1.1 for discussion on WIPP-Level roll-up scaling) radionuclide activities were calculated as shown in the following equations for both CH- and RH-TRU wastes. In the first step, the activities of each radionuclide in the scaled waste stream volumes ( $a(RN)_{Disposal}$ ) are summed for all

waste streams to give the total activity for each radionuclide in CH- and RH-TRU waste in the repository. In the second step, the total activity for each radionuclide in CH- and RH-TRU waste in the repository is divided by the volume limit (168,485 m³ [5,950,000 ft³] for CH-TRU waste and 7,079 m³ [250,000 ft³] for RH-TRU waste) to give the activity concentration for a radionuclide in CH- or RH-TRU waste in the repository.

$$A(RN) = \sum a(RN)_{Disposal}$$

$$\hat{A}(RN) = A(RN)/Limit$$
(9)

Where

A(RN)is the total activity (Ci) for a radionuclide in CH- or RH-TRU waste in the repository (after scaling) $\hat{A}(RN)$ is the activity concentration for a radionuclide in CH- or RH-TRU waste in the repository (Ci/m³) $a(RN)_{Disposal}$ is the activity (Ci) of the radionuclide RN in the scaled waste stream volumeLimitis  $168.485 \text{ m}^3 (5.950.000 \text{ ft}^3)$  for CH-TRU waste and  $7.079 \text{ m}^3 (250.000 \text{ ft}^3)$  for RH-

TRU waste

## 3.4 Site-Level Roll-up of Radionuclide Activities

Tables 30 and 31 provide the site-specific radionuclide inventory estimates in total curies decayed through CY 2001 for CH- and RH-TRU waste, respectively. The data shown in Tables 30 and 31 are the radionuclide inventories as the sum of the actual stored and projected volumes (not scaled) reported by the sites.

#### 3.5 Waste-Stream-Level Radionuclide Activities

The radionuclide activities (Ci) in the scaled waste stream volumes for the CH-TRU waste streams included in the estimate of volume for the PABC (Leigh et al. 2005a; Leigh et al. 2005b) are given in Appendix E, Table E-1. The radionuclide activities (Ci) in the scaled waste stream volumes for the RH-TRU waste streams included in the estimate of volume for PABC are given in Appendix E, Table E-2.

## 3.6 Waste Isolation Pilot Plant-Level Roll-up of Radionuclide Activities

The waste profiles in Appendices I, J, and K include radionuclide concentrations for each waste stream. These radionuclide concentrations have been decayed to a common base year, but are not scaled for a full repository.

Table 32 presents the WIPP-level roll-up of radionuclide activities for the disposal inventory (scaled for a full WIPP repository) in Ci/m<sup>3</sup> and total Ci decayed through CY 2001 for both CH-TRU and RH-TRU waste. Table 32 corresponds to Table 3-1 in TWBIR Revision 3 (DOE 1996a).

A comparison of TWBIR Revision 3, Table 3-1 (DOE 1996a) radionuclide information to the radionuclide information reported in Table 32 is given in Appendix B, Table B-27 for CH-TRU waste and Table B-28 for RH-TRU waste. The overall activity for all radionuclides has decreased by nearly 25 percent. Five radionuclides made up 99 percent of the CH-TRU waste curies in the TWBIR Revision 3 and the same five make up 97 percent of the total CH-TRU waste curies in this report. The results for

RH-TRU waste show substantial variations in individual radionuclide activity. An overall increase in activity of 60 percent was observed with this update. The five most abundant RH-TRU waste isotopes in the TWBIR Revision 3 ( $^{137m}$ Ba,  $^{137}$ Cs,  $^{241}$ Pu,  $^{90}$ Sr, and  $^{90}$ Y) are still the most abundant in the TWBIR - 2004. These five radionuclides made up 96 percent of the RH-TRU waste curies in the TWBIR Revision 3 and make up 98 percent of the total RH-TRU waste curies in TWBIR - 2004.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*

| Nuclide | AE      | AW      | Army    | Battelle | Bettis  | ETEC    | INEEL   | K-NFS   | LANL    | LLNL    |
|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|
| Ac-225  | 1.6E-04 | 1.0E-09 | 1.7E-15 | _        |         | 1.2E-14 | 1.0E+00 | _       | 8.3E-04 | _       |
| Ac-227  | 2.1E-07 | 2.5E-11 | 3.2E-15 | _        | _       | 5.3E-14 | 4.4E-04 | _       | 1.3E-03 | _       |
| Ac-228  | 4.9E-05 | _       | _       | _        | _       | 3.8E-18 | 1.8E+00 | _       | 9.4E-07 | _       |
| Ag-109m | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Ag-110  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Ag-110m | _       |         |         | _        |         | _       | _       |         |         | _       |
| Am-241  | 6.2E+01 | 1.0E-01 | 1.6E-01 | 6.5E+00  | 8.4E-03 | 2.3E-01 | 2.4E+05 | 7.8E+01 | 5.7E+03 | 2.5E+03 |
| Am-242  | _       |         |         | _        |         | _       | _       |         |         | _       |
| Am-242  | _       | _       | _       | _        | _       | _       | _       | _       | _       |         |
| Am-243  | _       | _       |         |          | 4.0E-05 | _       | 4.2E+01 |         | 3.8E-03 | _       |
| Am-245  | _       | _       | _       | _        | _       | _       | _       | _       | 2.0E-13 | _       |
| At-217  | 1.6E-04 | 1.0E-09 | 1.7E-15 | _        |         | 1.3E-14 | 1.0E+00 |         | 8.3E-04 | _       |
| Ba-137m | 3.4E+00 | 2.8E-01 | _       | _        | 2.1E+01 | 1.5E-02 | _       | _       | 1.1E-02 | _       |
| Bi-210  | 6.2E-10 | 1.7E-14 | _       | _        | _       | 9.3E-12 | 1.1E-05 | _       | 7.4E-06 | _       |
| Bi-211  | 2.1E-07 | 2.4E-11 | 3.2E-15 | _        | _       | 5.3E-14 | 4.3E-04 | _       | 1.3E-03 | _       |
| Bi-212  | 4.2E-01 | _       | _       | _        | _       | 2.3E-18 | 1.6E+00 | _       | 1.7E-06 | _       |
| Bi-213  | 1.6E-04 | 1.0E-09 | 1.7E-15 | _        | _       | 1.2E-14 | 1.0E+00 | _       | 8.2E-04 | _       |
| Bi-214  | 4.3E-09 | 1.8E-12 | _       | _        | _       | 7.6E-11 | 4.2E-05 | _       | 2.8E-05 | _       |
| Bk-249  | _       | _       | _       | _        | _       | _       | _       | _       | 1.4E-08 | _       |
| Bk-250  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| C-14    | _       | _       | _       | _        | 5.3E-04 | _       | _       | _       | _       | _       |
| Cd-109  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Ce-144  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Cf-249  | _       |         |         | _        | 7.6E-13 | _       | _       |         | 1.3E-04 | _       |
| Cf-250  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Cf-251  | _       |         |         | _        | 3.6E-14 | _       | _       |         |         | _       |
| Cf-252  | _       | _       | _       | _        | _       | _       | 3.1E-03 | _       | _       |         |
| Cm-242  | _       |         |         | _        |         | _       | _       |         |         | _       |
| Cm-243  | _       | _       | _       | _        | 4.5E-05 | _       | _       | _       | _       |         |
| Cm-244  | _       | _       |         |          | 2.5E-03 | _       | _       |         | 2.8E+01 | 2.7E+03 |
| Cm-245  | _       | _       | _       | _        | 2.7E-07 | _       | _       | _       | 2.5E-07 |         |
| Cm-246  | _       |         |         | _        | 4.6E-08 | _       | _       |         |         | _       |
| Cm-247  | _       | _       | _       | _        | 1.1E-13 | _       | _       | _       | _       |         |
| Cm-248  | _       | _       |         |          | 1.9E-13 | _       | 6.8E-07 |         |         | _       |
| Cm-250  | _       | _       | _       | _        | _       | _       | _       | _       | _       |         |
| Co-60   | _       |         |         | _        | 9.3E-01 | _       | _       |         | 8.2E-08 | _       |
| Cs-134  |         |         |         |          |         |         | _       |         | 2.2E-10 |         |
| Cs-137  | 3.6E+00 | 3.0E-01 | _       | _        | 2.1E+01 | 1.6E-02 | _       | _       | 1.1E-02 |         |
| Eu-152  | _       | _       | _       | _        | 9.3E-01 | _       | _       | _       | 6.8E-08 | _       |
| Eu-154  |         | _       |         | _        | 9.3E-01 | _       | _       | _       | 3.0E-07 |         |
| Eu-155  | _       | _       | _       | _        | _       | _       | _       | _       | 2.7E-05 |         |
| Fr-221  | 1.6E-04 | 1.0E-09 | 1.7E-15 | _        | _       | 1.2E-14 | 1.0E+00 |         | 8.3E-04 | _       |

<sup>\*</sup> Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | MURR    | NTS     | ORNL    | Pad     | RFETS   | Hanford | Hanf-RP | SNL     | SRS     | WIPP    | Total   |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Ac-225  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 | _       | _       | 1.1E-06 | 1.9E-09 | 9.9E-05 | 1.2E+00 |
| Ac-227  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.9E-06 | _       | _       | 8.3E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Ac-228  | _       | 1.9E-15 | 1.1E-03 | _       | 5.4E-13 |         | _       | 3.7E-03 | 9.1E-13 | 8.8E-07 | 1.8E+00 |
| Ag-109m | _       | _       | _       | _       | _       |         |         | 1.3E-04 | _       | _       | 1.3E-04 |
| Ag-110  | _       | _       | 2.1E-11 | _       | _       | _       | _       | _       | _       | _       | 2.1E-11 |
| Ag-110m | _       | _       | 1.6E-09 | _       | _       | _       | _       | _       | _       | _       | 1.6E-09 |
| Am-241  | 2.2E+00 | 3.7E+02 | 2.5E+03 | _       | 2.6E+04 | 3.0E+04 | 5.2E+02 | 9.1E+00 | 8.7E+03 | 1.2E+05 | 4.3E+05 |
| Am-242  | _       | _       | _       | _       | _       | _       | _       | 4.7E-02 | _       | _       | 4.7E-02 |
| Am-242  | _       | _       | _       | _       | _       | _       | _       | 4.8E-02 | _       | _       | 4.8E-02 |
| Am-243  | _       | 1.2E+00 | 9.4E+00 | _       | _       | _       | _       | 1.4E-02 | _       | 4.8E-03 | 5.2E+01 |
| Am-245  | _       | _       | 6.2E-11 | _       | _       | _       | _       | _       | _       | _       | 6.2E-11 |
| At-217  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 | _       | _       | 1.1E-06 | 1.9E-09 | 9.9E-05 | 1.2E+00 |
| Ba-137m | _       | 2.6E-02 | 3.5E+03 | _       | 1.5E-02 | 3.3E+02 | 1.3E+03 | 7.3E+01 | _       | 3.6E-04 | 5.2E+03 |
| Bi-210  | _       | 9.8E-02 | 1.2E+00 | 5.5E-05 | 2.6E-08 |         | _       | 1.1E-02 | 5.2E-06 | 2.4E-07 | 1.3E+00 |
| Bi-211  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.8E-06 |         | _       | 8.2E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Bi-212  | _       | 1.6E-02 | 5.0E-01 | _       | 3.1E-13 |         | _       | 8.5E-03 | 8.7E-13 | 4.4E-07 | 2.5E+00 |
| Bi-213  | 1.5E-12 | 2.7E-03 | 2.2E-01 | 1.4E-09 | 5.4E-09 |         | _       | 1.1E-06 | 1.9E-09 | 9.8E-05 | 1.2E+00 |
| Bi-214  | 2.7E-20 | 2.5E-01 | 2.8E+00 | 3.1E-04 | 2.3E-07 |         | _       | 5.0E-02 | 2.8E-05 | 7.8E-06 | 3.1E+00 |
| Bk-249  | _       | _       | 4.3E-06 | _       | _       |         | _       |         | _       | _       | 4.3E-06 |
| Bk-250  | _       | _       | 1.7E-12 | _       | _       |         | _       | _       | _       | _       | 1.7E-12 |
| C-14    | _       | 2.5E-04 | 2.1E-04 | _       | _       | 1.1E+00 | 9.9E-02 | _       | _       | _       | 1.2E+00 |
| Cd-109  | _       | _       | _       | _       | _       | _       | _       | 1.3E-04 | _       | _       | 1.3E-04 |
| Ce-144  | _       | _       | 1.2E-07 | _       |         | _       | _       | 3.6E-04 | _       |         | 3.6E-04 |
| Cf-249  | _       | 1.1E-02 | 3.1E-02 | _       | _       | _       | _       | _       | _       | _       | 4.2E-02 |
| Cf-250  | _       | 1.4E-01 | 1.9E-02 | _       |         | _       | _       |         | _       |         | 1.6E-01 |
| Cf-251  | _       | _       | 1.7E-04 | _       | _       | _       | _       | _       | _       | _       | 1.7E-04 |
| Cf-252  | _       | 8.3E-02 | 5.7E-02 |         | _       |         | _       | _       | _       |         | 1.4E-01 |
| Cm-242  | _       | _       | 4.3E-10 |         | _       |         | _       | 3.9E-02 | _       |         | 3.9E-02 |
| Cm-243  | _       | 4.6E-04 | _       | _       | _       | _       | _       | 4.0E-01 | _       | _       | 4.0E-01 |
| Cm-244  | _       | 2.3E+00 | 1.7E+03 |         | _       |         | _       | 4.8E+00 | _       |         | 4.4E+03 |
| Cm-245  | _       | 1.5E-05 | 4.0E-03 |         | _       |         | _       | _       | _       |         | 4.0E-03 |
| Cm-246  | _       | 5.2E-04 | 7.4E-01 | _       | _       | _       | _       | _       | _       | _       | 7.4E-01 |
| Cm-247  | _       | _       | 1.3E-10 | _       | _       | _       | _       | _       | _       | _       | 1.3E-10 |
| Cm-248  | _       | 4.1E-05 | 4.3E-02 | _       | _       | _       | _       | _       | _       | _       | 4.3E-02 |
| Cm-250  |         | _       | 3.2E-11 | _       |         |         | _       |         | _       |         | 3.2E-11 |
| Co-60   | _       | _       | 3.5E-03 | _       | _       |         | _       | 4.8E-02 | _       | 1.5E-07 | 9.8E-01 |
| Cs-134  |         | _       | 8.1E-04 | _       |         |         | _       | 1.9E-02 | _       |         | 2.0E-02 |
| Cs-137  | _       | 2.8E-02 | 3.7E+03 | _       | 1.6E-02 | 3.3E+02 | 1.4E+03 | 7.8E+01 | _       | 3.9E-04 | 5.5E+03 |
| Eu-152  | _       | 9.2E-01 | 4.1E-02 | _       | _       |         | _       |         | _       | _       | 1.9E+00 |
| Eu-154  | _       | 3.4E-01 | 1.2E-01 | _       | _       | _       | _       | 1.3E-01 | _       | _       | 1.5E+00 |
| Eu-155  | _       |         | 3.1E-02 | _       | _       | _       | _       | 1.8E-03 | _       | _       | 3.3E-02 |
| Fr-221  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 |         |         | 1.1E-06 | 1.9E-09 | 9.8E-05 | 1.2E+00 |

<sup>\*</sup> Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| V Army E-13 4.4E   | -17   | Bettis   |   |  |  | LANL 1.7E-05 4.1E-21 2.1E+02 — — — 4.3E-02 — 3.7E-03 1.8E-07 9.5E-07                                     | LLNL                 |
|--|---|--|---|--|--|--|----------------------|
| E-09 4.0E-E-10 E-07 —  |   | 7.0E-06  7.0E-06  7.6E-02  3.7E+00  5.6E-05  — — — — — — — —   |   |  |  | 4.1E-21 2.1E+02 — — — — 4.3E-02 — 3.7E-03 1.8E-07  | <br><br><br><br><br> |
| E-09 4.0E-E-08 4.0E-E-10 — E-07 —                              |   |  |   |  |  | 2.1E+02 — — — — 4.3E-02 — 3.7E-03 1.8E-07 9.5E-07  | <br><br><br><br><br> |
| E-08 4.0E-<br>E-09 4.0E-<br>E-08 4.0E-<br>E-09 —               | -07 — — — — — — — — — — — — — — — — — — —                     |  |   |  | ——————————————————————————————————————   |  | <br><br><br><br>     |
| E-08 4.0E-<br>E-09 4.0E-<br>E-08 4.0E-<br>E-09 —               | -07 — — — — — — — — — — — — — — — — — — —                     |  |   |  | ——————————————————————————————————————   |  | <br><br><br><br>     |
| E-09 4.0E-<br>E-08 4.0E-<br>E-09 4.0E-<br>E-09 4.0E-<br>E-07 — |   |  | 9.9E-07 4.1E-13 9.8E-07   | 2.4E+00<br>  |  |  |                      |
| E-08 4.0E-<br>E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —     | -07   | 3.7E+00<br>5.6E-05<br>————————————————————————————————————   | 9.9E-07 4.1E-13 9.8E-07   | 2.4E+00<br>  |  |  |                      |
| E-08 4.0E-<br>E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —     | -07   | 3.7E+00<br>5.6E-05<br>————————————————————————————————————   | 9.9E-07 4.1E-13 9.8E-07   | 2.4E+00<br>  |  |  |                      |
| E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —                   |   | 5.6E-05 — — — — — — — — — — — —  | 9.9E-07<br>————————————————————————————————————   |  |  | 3.7E-03<br>1.8E-07<br>9.5E-07  |                      |
| E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —                   |   |  |   |  |  | 3.7E-03<br>1.8E-07<br>9.5E-07  |                      |
| E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —                   | -14<br>-07<br>  |  | <br>4.1E-13<br>9.8E-07  | 5.1E-14<br>1.2E-03<br>2.3E+00  |  | 1.8E-07<br>9.5E-07   |                      |
| E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —                   | -14 <u> </u>  | _<br>_<br>_  | 9.8E-07   | 5.1E-14<br>1.2E-03<br>2.3E+00  |  | 1.8E-07<br>9.5E-07   |                      |
| E-09 4.0E-<br>E-08 4.0E-<br>E-10 —<br>E-07 —                   | -14 <u> </u>  | _<br>_<br>_  | 9.8E-07   | 1.2E-03<br>2.3E+00   |  | 9.5E-07  |                      |
| E-08 4.0E-<br>E-10 —<br>E-07 —                                 | -07 <u> </u>  |  | 9.8E-07   | 2.3E+00  |  | -  |                      |
| E-10<br>E-07   |   |  |   |  |  |  |                      |
| E-07   | _   |  | 5.4E-18   |  | _  | 4.3E-02  | _                    |
| E-07   | _   |  |   | 4.7E-02  | _  | 2.4E-04  | _                    |
| E-09 1.7E-   | -15   |  | 4.1E-15   | 3.6E+01  |  | 1.9E-01  | _                    |
|  | -15   | _  | 1.2E-14   | 1.0E+00  | _  | 8.3E-04  | _                    |
| E-14   | _   | _  | 9.4E-12   | 1.1E-05  | _  | 7.5E-06  | _                    |
| E-11 3.2E-   |   | _  | 5.3E-14   | 4.3E-04  | _  | 1.3E-03  | _                    |
|  |   | _  | 2.3E-18   | 1.6E+00  |  | 1.7E-06  | _                    |
| E-12   | _   | _  | 7.7E-11   | 4.2E-05  | _  | 2.8E-05  | _                    |
|  |   | 9.3E-01  | _   | _  |  | _  | _                    |
| E-15   | _   | _  | 9.4E-12   | 1.1E-05  | _  | 7.5E-06  | _                    |
| E-14 9.7E-   |   | _  | 1.6E-16   | 1.3E-06  |  | 3.9E-06  | _                    |
|  | _   | _  | 1.5E-18   | 9.9E-01  | _  | 1.1E-06  | _                    |
| E-10 1.7E-   |   | _  | 1.2E-14   | 9.9E-01  | _  | 8.1E-04  | _                    |
| E-12   | _   | _  | 7.7E-11   | 4.2E-05  | _  | 2.8E-05  | _                    |
| E-11 3.2E-   | -15   | _  | 5.3E-14   | 4.3E-04  | _  | 1.3E-03  | _                    |
|  |   | _  | 2.3E-18   | 1.5E+00  |  | 1.7E-06  |                      |
|  | _   | _  | 7.5E-11   | 4.1E-05  |  | 2.8E-05  | _                    |
|  | _   | _  |   |  |  | _  | _                    |
|  |   |  | _   |  |  | _  | _                    |
| E+02   |   |  | 1.2E-02   |  |  | 9.6E+04  | 5.5E+02              |
| +  |   |  |   | 6.6E+04  | 1.6E+02  | 3.8E+03  | 3.1E+03              |
|  | -   | +  |   | 1.6E+04  | 5.3E+01  | 3.1E+02  | 1.4E+03              |
| +  |   |  | -   |  |  | 2.3E+03  | 4.3E+04              |
| F 0.4  |   | +  |   |  |  | -  | _                    |
|  | <u> </u>  | <u> </u>   |   |  | _  | _  |                      |
|  | <del> </del>  | 6.6E-13  | _   | 5.0E-14  | _  | 1.8E-07  |                      |
|  | 1.5   |  | -   |  |  | -  |                      |
| E-11 3.2E-   |   |  |   |  |  |  |                      |
| E-11 3.2E-   |   |  |   |  |  |  |                      |
| ]  | E-10 1.7E- E-12 E-11 3.2E- E-12 E-12 E-12 E-12 E-12 E-12 E-10 | E-10 1.7E-15 E-12 E-11 3.2E-15 E-12 E-13 1.8E+03 E-18E+02 | E-10 1.7E-15 E-12 E-11 3.2E-15  E-12  E-13  1.8E+03  9.3E-01  1.8E+03  9.3E-01  1.5E-03  1.5E-03  1.5E-04  1.5E-03  1.2E-05  1.2E-05   E-11  3.2E-15  E-11  3.2E-15 | E-10 1.7E-15 1.2E-14 E-12 7.7E-11 E-11 3.2E-15 5.3E-14 E-12 2.3E-18 E-12 7.5E-11 E-12 7.5E-11 E-12 | E-10 1.7E-15 1.2E-14 9.9E-01 E-12 7.7E-11 4.2E-05 E-11 3.2E-15 5.3E-14 4.3E-04 2.3E-18 1.5E+00 E-12 7.5E-11 4.1E-05 7.5E-11 4.1E-05 3.3E-03 E+02 1.8E+03 9.3E-01 1.2E-02 7.7E+04 E-02 1.8E+03 9.3E-01 1.2E-02 7.7E+04 E-01 7.5E+00 1.5E-03 8.2E-02 1.6E+04 E-01 1.9E-01 3.6E+02 1.6E-01 8.9E-01 1.3E+05 E-06 1.2E-03 1.2E-05 2.0E-06 1.2E+00 | E-10 1.7E-15 1.2E-14 9.9E-01 E-12 7.7E-11 4.2E-05 E-11 3.2E-15 5.3E-14 4.3E-04 E-12 7.5E-11 4.1E-05 E-12 | E-10                 |

<sup>\*</sup>Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | MURR    | NTS     | ORNL    | Pad     | RFETS   | Hanford | Hanf-RP | SNL     | SRS     | WIPP    | Total   |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Fr-223  | 4.9E-18 | 2.8E-06 | 3.3E-03 | 8.2E-16 | 5.3E-08 |         | _       | 1.1E-05 | 3.3E-09 | 5.1E-06 | 3.3E-03 |
| Gd-152  | _       | 3.9E-14 | 1.9E-15 | _       | _       | _       | _       | _       | _       | _       | 4.1E-14 |
| H-3     | _       | 5.2E-02 | _       | _       | _       | 3.4E+00 | _       | 1.8E-02 | _       | _       | 2.2E+02 |
| I-129   | _       | _       | _       | _       | _       | _       | 5.1E-04 | _       | _       | _       | 5.1E-04 |
| Kr-85   | _       | 1.4E-01 | _       | _       | _       |         | _       | 3.2E-01 | _       | _       | 4.6E-01 |
| Na-22   | _       | _       | _       | _       | _       | _       | _       |         | _       | 3.9E-07 | 3.9E-07 |
| Ni-59   | _       | _       | _       | _       | _       | _       | _       | _       | _       | _       | 7.6E-02 |
| Ni-63   | _       | _       | 1.2E-04 | _       | _       | _       | _       |         |         |         | 3.7E+00 |
| Np-237  | 4.7E-04 | 6.5E-03 | 8.0E-01 | 4.1E-02 | 2.5E-01 | _       | 3.2E-03 | 1.4E-01 | 4.8E-02 | 5.4E-01 | 4.9E+00 |
| Np-238  | _       | _       | _       | _       | _       | _       | _       | 2.4E-04 | _       |         | 2.4E-04 |
| Np-239  | _       | 1.2E+00 | 9.3E+00 | _       | _       |         | _       | 1.4E-02 | _       | 4.8E-03 | 5.2E+01 |
| Np-240m | _       | 1.0E-06 | 5.7E-09 |         | _       |         | _       |         | _       |         | 1.2E-06 |
| Pa-231  | 8.8E-15 | 5.1E-04 | 5.7E-01 | 4.8E-13 | 2.3E-05 |         | _       | 5.6E-03 | 1.0E-06 | 5.0E-04 | 5.8E-01 |
| Pa-233  | 4.7E-04 | 6.4E-03 | 7.9E-01 | 4.1E-02 | 2.5E-01 |         |         | 1.4E-01 | 4.8E-02 | 5.4E-01 | 4.9E+00 |
| Pa-234  | 3.1E-10 | 2.0E-07 | 8.7E-05 |         | 2.3E-04 |         | _       | 1.2E-05 | _       | 8.4E-03 | 5.6E-02 |
| Pa-234m | 2.4E-07 | 1.6E-04 | 6.7E-02 |         | 1.8E-01 |         | _       | 8.9E-03 | _       | 6.5E+00 | 4.3E+01 |
| Pb-209  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 |         |         | 1.1E-06 | 1.9E-09 | 9.8E-05 | 1.2E+00 |
| Pb-210  | _       | 9.9E-02 | 1.2E+00 | 5.5E-05 | 2.6E-08 |         | _       | 1.1E-02 | 5.3E-06 | 2.4E-07 | 1.3E+00 |
| Pb-211  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.8E-06 |         |         | 8.2E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Pb-212  | _       | 1.6E-02 | 5.0E-01 | _       | 3.1E-13 |         | _       | 8.5E-03 | 8.7E-13 | 4.4E-07 | 2.5E+00 |
| Pb-214  | 2.7E-20 | 2.5E-01 | 2.9E+00 | 3.1E-04 | 2.3E-07 |         | _       | 5.0E-02 | 2.8E-05 | 7.8E-06 | 3.2E+00 |
| Pm-147  | _       | _       | 9.5E-02 |         | _       |         | _       | 6.9E-01 | _       |         | 1.7E+00 |
| Po-210  | _       | 9.9E-02 | 1.2E+00 | 5.5E-05 | 2.6E-08 |         |         | 1.1E-02 | 5.3E-06 | 1.3E-07 | 1.3E+00 |
| Po-211  | 1.1E-18 | 6.1E-07 | 7.2E-04 | 1.8E-16 | 1.2E-08 |         | _       | 2.5E-06 | 7.2E-10 | 1.1E-06 | 7.3E-04 |
| Po-212  | _       | 1.0E-02 | 3.2E-01 | _       | 2.0E-13 |         |         | 5.4E-03 | 5.6E-13 | 2.8E-07 | 1.6E+00 |
| Po-213  | 1.5E-12 | 2.7E-03 | 2.2E-01 | 1.4E-09 | 5.3E-09 |         | _       | 1.1E-06 | 1.8E-09 | 9.6E-05 | 1.2E+00 |
| Po-214  | 2.7E-20 | 2.5E-01 | 2.9E+00 | 3.1E-04 | 2.3E-07 |         | _       | 5.0E-02 | 2.8E-05 | 7.8E-06 | 3.2E+00 |
| Po-215  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.8E-06 |         | _       | 8.2E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Po-216  | _       | 1.6E-02 | 5.0E-01 |         | 3.1E-13 |         | _       | 8.5E-03 | 8.7E-13 | 4.4E-07 | 2.5E+00 |
| Po-218  | 2.7E-20 | 2.5E-01 | 2.8E+00 | 3.0E-04 | 2.3E-07 | _       | _       | 4.9E-02 | 2.7E-05 | 7.7E-06 | 3.1E+00 |
| Pr-144  | _       | _       | 1.1E-07 | _       |         |         | _       | 3.5E-04 | _       | _       | 3.5E-04 |
| Pu-236  | _       | _       | _       | _       | _       | _       | _       | _       | _       | _       | 3.3E-03 |
| Pu-238  | _       | 1.7E+02 | 5.3E+03 | _       | 2.7E+03 | 1.1E+05 | 2.2E+01 | 1.7E+00 | 1.0E+06 | 5.4E+03 | 1.3E+06 |
| Pu-239  | 5.3E-02 | 2.9E+03 | 1.3E+03 | 2.7E-01 | 7.4E+04 | 4.8E+04 | 3.3E+03 | 4.6E+00 | 2.0E+05 | 1.4E+05 | 5.4E+05 |
| Pu-240  | _       | 6.3E+01 | 1.3E+03 | _       | 1.7E+04 | 1.4E+04 | 2.7E+02 | 5.0E-01 | 4.9E+03 | 3.1E+04 | 8.6E+04 |
| Pu-241  | _       | 1.4E+03 | 4.3E+04 | _       | 1.8E+05 | 9.7E+05 | 5.5E+02 | 6.7E+00 | 9.7E+04 | 3.4E+05 | 1.8E+06 |
| Pu-242  | _       | 8.9E-02 | 3.8E-01 |         | 1.7E+00 | 3.7E+00 | 7.7E-03 | 7.7E-08 | _       | 3.0E+00 | 1.0E+01 |
| Pu-243  | _       | _       | 1.3E-10 | _       |         | _       | _       |         | _       | _       | 1.3E-10 |
| Pu-244  | _       | 1.0E-06 | 5.7E-09 | _       |         |         | _       | _       |         | _       | 1.2E-06 |
| Ra-223  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.9E-06 |         | _       | 8.3E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Ra-224  | _       | 1.6E-02 | 4.9E-01 | _       | 3.1E-13 |         | _       | 8.5E-03 | 8.7E-13 | 4.4E-07 | 2.5E+00 |
| Ra-225  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 |         | _       | 1.1E-06 | 1.9E-09 | 9.9E-05 | 1.2E+00 |

\*Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | AE      | AW      | Army    | Battelle | Bettis  | ETEC    | INEEL   | K-NFS   | LANL    | LLNL    |
|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|
| Ra-226  | 4.3E-09 | 1.8E-12 | _       | _        | _       | 7.7E-11 | 4.2E-05 | _       | 2.8E-05 | _       |
| Ra-228  | 5.8E-05 | _       | _       | _        | _       | 4.4E-18 | 2.1E+00 | _       | 1.1E-06 |         |
| Rh-106  | _       | _       | _       | _        | _       | _       | _       | _       | 8.5E-11 | _       |
| Rn-219  | 2.1E-07 | 2.4E-11 | 3.2E-15 | _        | _       | 5.3E-14 | 4.3E-04 | _       | 1.3E-03 |         |
| Rn-220  | 4.2E-01 | _       | _       | _        | _       | 2.3E-18 | 1.6E+00 | _       | 1.7E-06 | _       |
| Rn-222  | 4.3E-09 | 1.8E-12 | _       | _        | _       | 7.7E-11 | 4.2E-05 | _       | 2.8E-05 |         |
| Ru-106  | _       | _       | _       | _        | _       | _       | _       | _       | 8.6E-11 | _       |
| Sb-125  | _       | _       | _       | _        | _       |         | _       | _       | 2.9E-06 |         |
| Se-79   | _       | _       | _       | _        | 1.3E-04 | _       | _       | _       | _       | _       |
| Sm-147  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Sm-151  | _       | _       | _       | _        | 1.0E-01 | _       | _       | _       |         | _       |
| Sr-90   | 2.6E+00 | 1.5E+00 | _       | _        | 2.1E+01 | 1.2E-02 | _       | _       | 7.4E-03 | _       |
| Tc-99   | 5.8E+00 | _       | _       | _        | 4.7E-03 | _       | _       | 2.5E-02 |         | _       |
| Te-123  | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Te-123m | _       | _       | _       | _        | _       | _       | _       | _       |         | _       |
| Te-125m | _       | _       | _       | _        | _       | _       | _       | _       | 7.1E-07 | _       |
| Th-227  | 2.1E-07 | 2.4E-11 | 3.1E-15 | _        | _       | 5.2E-14 | 4.3E-04 | _       | 1.2E-03 | _       |
| Th-228  | 4.2E-01 | _       | _       | _        | _       | 2.3E-18 | 1.6E+00 | 1.7E-04 | 1.7E-06 | _       |
| Th-229  | 1.6E-04 | 1.0E-09 | 1.7E-15 | _        | _       | 1.3E-14 | 1.0E+00 | _       | 8.3E-04 | _       |
| Th-230  | 1.3E-06 | 8.9E-09 | _       | _        | _       | 2.8E-08 | 6.3E-03 | _       | 4.1E-03 | _       |
| Th-231  | 2.9E-03 | 7.3E-05 | 4.7E-10 | _        | _       | 2.8E-09 | 1.8E+00 | _       | 2.6E-03 | _       |
| Th-232  | 6.2E-05 | 5.1E-19 | _       | _        | 5.6E-14 | 1.1E-17 | 2.4E+00 | 2.9E-05 | 1.1E-06 | _       |
| Th-234  | 5.2E-02 | 2.7E-07 | _       | _        | _       | 4.1E-15 | 3.6E+01 | _       | 1.9E-01 | _       |
| T1-207  | 2.1E-07 | 2.4E-11 | 3.2E-15 | _        | _       | 5.3E-14 | 4.3E-04 | _       | 1.3E-03 | _       |
| T1-208  | 1.5E-01 | _       | _       | _        | _       | 8.2E-19 | 5.6E-01 | _       | 6.1E-07 | _       |
| T1-209  | 3.5E-06 | 2.2E-11 | 3.8E-17 | _        | _       | 2.7E-16 | 2.2E-02 | _       | 1.8E-05 | _       |
| U-232   | 4.1E-01 | _       | _       | _        | 1.3E-05 | _       | 2.7E-03 | 1.7E-04 | 7.3E-07 | _       |
| U-233   | 1.1E-01 | 1.1E-05 | 6.9E-12 | _        | _       | 2.9E-11 | 8.3E+02 | 1.5E-02 | 3.1E-01 |         |
| U-234   | 9.1E-03 | 1.2E-03 | _       | _        | 2.0E-03 | 2.4E-04 | 2.4E+01 | 1.1E-03 | 1.6E+01 | _       |
| U-235   | 2.9E-03 | 7.4E-05 | 4.8E-10 | _        | 2.6E-05 | 2.8E-09 | 1.8E+00 | 5.1E-05 | 2.7E-03 |         |
| U-236   | 6.7E-05 | 2.1E-08 | _       | _        | 3.0E-04 | 3.3E-08 | 9.0E-01 | _       | 4.2E-04 | _       |
| U-237   | 6.3E-03 | 1.5E-05 | 4.6E-06 | _        | _       | 2.2E-05 | 3.1E+00 | _       | 5.7E-02 | _       |
| U-238   | 5.2E-02 | 2.7E-07 | _       | _        | 1.2E-07 | 4.2E-15 | 3.7E+01 | 4.0E-03 | 1.9E-01 | _       |
| U-240   | _       | _       | _       | _        | _       | _       | 5.0E-14 | _       | 1.8E-07 | _       |
| Y-90    | 2.6E+00 | 1.5E+00 | _       | _        | 2.1E+01 | 1.2E-02 | _       | _       | 7.3E-03 | _       |
| Zn-65   | _       | _       | _       | _        | _       | _       | _       | _       | _       | _       |
| Zr-93   | _       | _       | _       | _        | 1.1E-03 |         | _       | _       | _       | _       |
| TOTAL   | 6.5E+02 | 2.7E+02 | 4.1E-01 | 2.2E+03  | 9.3E+01 | 1.5E+00 | 5.2E+05 | 5.8E+02 | 1.1E+05 | 5.3E+04 |

\*Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 30. CH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | MURR    | NTS     | ORNL    | Pad     | RFETS   | Hanford | Hanf-RP | SNL     | SRS     | WIPP    | Total   |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Ra-226  | 2.8E-20 | 2.5E-01 | 2.9E+00 | 3.1E-04 | 2.3E-07 | _       | _       | 5.1E-02 | 2.8E-05 | 7.9E-06 | 3.2E+00 |
| Ra-228  |         | 2.2E-15 | 1.3E-03 |         | 6.4E-13 | _       |         | 4.3E-03 | 1.1E-12 | 1.0E-06 | 2.1E+00 |
| Rh-106  | _       | _       | 2.4E-05 |         |         | _       |         | 1.1E-04 |         |         | 1.3E-04 |
| Rn-219  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 6.0E-14 | 3.8E-06 | _       |         | 8.2E-04 | 2.4E-07 | 3.7E-04 | 2.4E-01 |
| Rn-220  | _       | 1.6E-02 | 5.0E-01 |         | 3.1E-13 | _       |         | 8.5E-03 | 8.7E-13 | 4.4E-07 | 2.5E+00 |
| Rn-222  | 2.7E-20 | 2.5E-01 | 2.9E+00 | 3.1E-04 | 2.3E-07 | _       |         | 5.0E-02 | 2.8E-05 | 7.9E-06 | 3.2E+00 |
| Ru-106  | _       | _       | 2.4E-05 |         | _       | _       |         | 1.1E-04 |         | _       | 1.3E-04 |
| Sb-125  | _       | _       | 2.4E-03 |         | _       | _       |         | _       |         | _       | 2.4E-03 |
| Se-79   | _       | _       | _       | _       | _       | _       | _       | _       | _       | _       | 1.3E-04 |
| Sm-147  | _       | _       | 2.1E-10 | _       | _       | _       | _       | 4.6E-11 | _       | _       | 2.5E-10 |
| Sm-151  | _       | _       | _       | _       | _       | _       | 5.6E+01 | 2.7E-01 | _       | _       | 5.7E+01 |
| Sr-90   | _       | 9.5E-05 | 2.2E+03 |         | _       | 1.2E+02 | 5.3E+04 | 7.4E+01 | _       | _       | 5.5E+04 |
| Tc-99   | _       | _       | 3.1E+01 | 3.0E+00 | _       | 6.8E-04 | 8.9E+01 | 1.6E-03 | _       | _       | 1.3E+02 |
| Te-123  | _       | _       | 3.2E-05 |         | _       | _       | _       | _       | _       | _       | 3.2E-05 |
| Te-123m | _       | _       | 2.4E-19 |         | _       | _       | _       | _       | _       | _       | 2.4E-19 |
| Te-125m | _       | _       | 5.8E-04 | _       |         | _       |         | _       | _       |         | 5.8E-04 |
| Th-227  | 3.5E-16 | 2.0E-04 | 2.3E-01 | 5.9E-14 | 3.8E-06 | _       |         | 8.1E-04 | 2.3E-07 | 3.6E-04 | 2.4E-01 |
| Th-228  | _       | 1.6E-02 | 5.0E-01 | _       | 3.2E-13 | _       |         | 8.6E-03 | 8.8E-13 | 4.4E-07 | 2.5E+00 |
| Th-229  | 1.5E-12 | 2.7E-03 | 2.3E-01 | 1.4E-09 | 5.4E-09 | _       |         | 1.1E-06 | 1.9E-09 | 9.9E-05 | 1.2E+00 |
| Th-230  | 4.8E-17 | 1.2E-06 | 3.2E-03 | 5.6E-02 | 9.1E-05 | _       |         | 8.5E-06 | 7.0E-03 | 4.9E-05 | 7.6E-02 |
| Th-231  | 2.1E-10 | 1.5E-04 | 1.0E-02 | 3.5E-09 | 9.0E-02 | _       |         | 1.2E-02 | 3.9E-03 | 1.2E-01 | 2.0E+00 |
| Th-232  | _       | 4.9E-15 | 1.3E-03 | _       | 1.8E-12 | 4.4E-02 |         | 4.0E-03 | 1.8E-12 | 2.6E-06 | 2.5E+00 |
| Th-234  | 2.4E-07 | 1.6E-04 | 6.7E-02 | _       | 1.8E-01 | _       | _       | 8.9E-03 | _       | 6.5E+00 | 4.3E+01 |
| T1-207  | 3.6E-16 | 2.0E-04 | 2.4E-01 | 5.9E-14 | 3.8E-06 | _       |         | 8.1E-04 | 2.3E-07 | 3.7E-04 | 2.4E-01 |
| T1-208  | _       | 5.8E-03 | 1.8E-01 |         | 1.1E-13 | _       | _       | 3.1E-03 | 3.1E-13 | 1.6E-07 | 8.9E-01 |
| T1-209  | 3.3E-14 | 6.0E-05 | 4.9E-03 | 3.1E-11 | 1.2E-10 | _       | _       | 2.4E-08 | 4.1E-11 | 2.2E-06 | 2.7E-02 |
| U-232   | _       | 1.6E-02 | 4.9E-01 | _       |         | _       |         | _       | _       |         | 9.2E-01 |
| U-233   | 8.0E-09 | 1.8E+00 | 1.4E+02 | 2.3E-06 | 1.0E-05 | 5.3E+01 | 1.1E-05 | 2.4E-03 | 2.4E-06 | 2.7E-01 | 1.0E+03 |
| U-234   | 2.7E-12 | 1.2E-02 | 2.1E+01 | _       | 8.9E-01 | 3.3E+01 | 1.3E+01 | 1.9E-01 | 6.3E+01 | 1.3E+00 | 1.7E+02 |
| U-235   | 2.1E-10 | 1.5E-04 | 1.0E-02 | 3.5E-09 | 9.1E-02 | 3.9E-01 | 5.8E-01 | 1.2E-02 | 4.0E-03 | 1.2E-01 | 3.0E+00 |
| U-236   | _       | 1.3E-05 | 8.1E-04 | _       | 6.0E-03 | 1.6E-05 | 1.1E-01 | 7.4E-08 | 3.0E-03 | 4.5E-03 | 1.0E+00 |
| U-237   | _       | 6.0E-03 | 1.1E+00 | _       | 4.4E+00 | _       |         | 1.7E-04 | 2.4E+00 | 8.5E+00 | 1.9E+01 |
| U-238   | 2.4E-07 | 1.6E-04 | 6.8E-02 | _       | 1.8E-01 | 4.0E+00 | 1.3E+01 | 9.0E-03 | _       | 6.5E+00 | 6.1E+01 |
| U-240   | _       | 1.0E-06 | 5.6E-09 |         | _       | _       | _       | _       | _       | _       | 1.2E-06 |
| Y-90    | _       | 9.4E-05 |         |         | _       | 1.2E+02 | 5.3E+04 | 7.3E+01 | _       | _       | 5.5E+04 |
| Zn-65   | _       | _       | 1.1E-10 | _       | _       | _       | _       | _       | _       | _       | 1.1E-10 |
| Zr-93   | _       | _       | _       | _       | _       | _       | _       | _       | _       | _       | 1.1E-03 |
| TOTAL   | 2.2E+00 | 4.9E+03 | 6.7E+04 | 3.4E+00 | 3.0E+05 | 1.2E+06 | 1.1E+05 | 3.3E+02 | 1.3E+06 | 6.4E+05 | 4.3E+06 |

\*Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*

| Nuclide | AE      | AW      | Battelle                               | Bettis                                | ETEC    | INEEL       | KAPL                                  |
|---------|---------|---------|--|---------------------------------------|---------|-------------|---------------------------------------|
| Ac-225  | 4.6E-07 | 1.2E-04 | _                                      | _                                     | 3.2E-14 | 2.2E-13     |                                       |
| Ac-227  | 2.9E-08 | 6.5E-08 | _                                      | _                                     | 1.8E-08 | 2.1E-08     | 4.9E-08                               |
| Ac-228  | 1.1E-15 | 1.2E-14 | _                                      | _                                     | 9.2E-18 | 2.4E-16     | 3.5E-11                               |
| Ag-110  | _       | _       | _                                      | _                                     |         | _           |                                       |
| Ag-110m | _       | _       | _                                      | _                                     |         |             |                                       |
| Am-241  | 1.0E+01 | 1.2E+01 | 8.6E+01                                | 2.5E+00                               | 6.5E-01 | 3.0E+01     | 3.0E-02                               |
| Am-242  | _       | 5.0E-03 | _                                      | _                                     | _       | _           | _                                     |
| Am-242m | _       | 5.1E-03 | 2.0E-01                                | _                                     |         |             |                                       |
| Am-243  | 3.2E-05 | 5.4E-04 | 6.7E-01                                | 1.2E-02                               | _       | _           | 5.3E-05                               |
| At-217  | 4.6E-07 | 1.2E-04 | _                                      | _                                     | 3.2E-14 | 2.2E-13     |                                       |
| Ba-137m | 4.3E+01 | 1.2E+04 | _                                      | 6.2E+03                               | 9.2E+00 | 1.9E+02     | 7.2E+01                               |
| Bi-210  | 7.0E-11 | 4.3E-11 | _                                      | _                                     | 9.8E-16 | 9.2E-11     | 2.5E-09                               |
| Bi-211  | 2.9E-08 | 6.5E-08 | _                                      | _                                     | 1.8E-08 | 2.1E-08     | 4.8E-08                               |
| Bi-212  | 1.1E-15 | 5.6E-15 | _                                      | _                                     | 5.5E-18 | 9.8E-17     |                                       |
| Bi-213  | 4.6E-07 | 1.2E-04 | _                                      |                                       | 3.2E-14 | 2.2E-13     |                                       |
| Bi-214  | 3.8E-10 | 7.2E-10 | _                                      |                                       | 1.7E-14 | 1.8E-09     |                                       |
| C-14    | _       | _       | _                                      | 1.6E-01                               |         | _           | 1.9E-03                               |
| Cd-113m | 5.9E-01 |         |  |                                       |         |             |                                       |
| Ce-141  | _       | 4.3E-19 | _                                      | _                                     |         | _           |                                       |
| Ce-144  | 2.0E-09 | 7.3E+00 | _                                      |                                       |         |             |                                       |
| Cf-249  | _       | _       | _                                      | 2.3E-10                               |         |             | 4.0E-12                               |
| Cf-250  | _       | _       | _                                      | _                                     |         |             |                                       |
| Cf-251  |         |         |  | 1.1E-11                               |         | <del></del> | 5.0E-14                               |
| Cf-252  |         |         |  | 1.12 11                               |         |             | 1.9E-15                               |
| Cm-242  | 1.5E-21 | 4.2E-03 | _                                      |                                       |         |             |                                       |
| Cm-243  |         | 1.4E-04 | 4.6E-01                                | 1.3E-02                               |         |             | 1.5E-05                               |
| Cm-244  | 1.9E-01 | 4.4E-03 | 6.8E+01                                | 7.6E-01                               | _       | _           | 1.5E-03                               |
| Cm-245  | _       | _       | 1.1E-02                                | 8.1E-05                               | _       | _           | 4.9E-07                               |
| Cm-246  | _       | _       | 1.6E-04                                | 1.4E-05                               |         |             | 6.4E-08                               |
| Cm-247  | _       | _       | _                                      | 3.2E-11                               | _       | _           | 1.5E-13                               |
| Cm-248  | _       | _       | _                                      | 5.8E-11                               | _       |             | 3.0E-13                               |
| Co-60   | 2.2E-01 | 1.9E+01 | 5.0E+02                                | 2.8E+02                               |         | _           |                                       |
| Cs-134  | 8.8E-05 | 1.1E+02 | 2.7E-04                                | _                                     | _       | _           |                                       |
| Cs-135  | _       | _       | _                                      | _                                     |         |             | 4.0E-04                               |
| Cs-137  | 4.5E+01 | 1.3E+04 | 2.3E+03                                | 6.4E+03                               | 9.8E+00 | 2.0E+02     | 7.7E+01                               |
| Eu-152  | 1.7E-04 | _       | 1.4E-02                                | 2.8E+02                               | _       | _           |                                       |
| Eu-154  | 8.2E-03 | 1.6E+02 | 3.8E-01                                | 2.8E+02                               | _       |             | _                                     |
| Eu-155  | 1.0E-02 | 3.2E+02 | _                                      | _                                     | _       | _           | _                                     |
| Fe-55   | 1.5E-01 |         | _                                      |                                       | _       |             |                                       |
| Fr-221  | 4.6E-07 | 1.2E-04 | _                                      |                                       | 3.2E-14 | 2.2E-13     |                                       |
| Fr-223  | 4.0E-10 | 8.9E-10 | _                                      | _                                     | 2.4E-10 | 2.9E-10     | 6.6E-10                               |
| Gd-152  | 1.8E-17 | —       | —————————————————————————————————————— | — — — — — — — — — — — — — — — — — — — |         |             | — — — — — — — — — — — — — — — — — — — |

<sup>\*</sup>Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

|                     | able 31. KH                           | 1                  | 1                                     |         |              |              |                    |
|---------------------|---------------------------------------|--------------------|---------------------------------------|---------|--------------|--------------|--------------------|
| Nuclide             | LANL                                  | ORNL               | Hanford                               | Hanf-RP | SNL          | SRS          | Total              |
| Ac-225              | 6.1E-15                               | 2.1E-01            | _                                     | _       | 4.6E-12      | _            | 2.1E-01            |
| Ac-227              | 2.4E-08                               | 2.3E-05            | _                                     | _       | 4.4E-09      | _            | 2.3E-05            |
| Ac-228              | 1.0E-16                               | 8.3E-01            | _                                     | _       | 1.2E-18      |              | 8.3E-01            |
| Ag-110<br>Ag-110m   | _                                     | 1.1E-10<br>8.5E-09 | _                                     | _       | _            | _            | 1.1E-10<br>8.5E-09 |
| Ag-110111<br>Am-241 | 2.5E-02                               | 3.2E+02            | 2.1E+03                               | 1.1E+04 | 2.1E+01      |              | 1.4E+04            |
| Am-241<br>Am-242    |                                       | J.ZL102            |                                       |         |              |              | 5.0E-03            |
| Am-242m             |                                       |                    | _                                     |         | _            |              | 2.1E-01            |
| Am-243              |                                       | 3.3E-01            |                                       |         |              | 4.1E-02      | 1.1E+00            |
| At-217              | 6.1E-15                               | 2.1E-01            | _                                     | _       | 4.6E-12      |              | 2.1E-01            |
| Ba-137m             | 1.5E+01                               | 1.5E+04            | 2.5E+05                               | 1.2E+05 | 4.6E+02      | <br>5.8E+01  | 4.1E+05            |
| Bi-210              | 9.1E-12                               | 1.2E-06            |                                       |         | 1.8E-11      | 2.1E-13      | 1.2E-06            |
| Bi-211              | 2.4E-08                               | 2.2E-05            | —                                     | _       | 4.3E-09      | 2.11.13      | 2.3E-05            |
| Bi-212              | 1.0E-16                               | 1.6E+01            | _                                     | _       | 3.2E-19      | _            | 1.6E+01            |
|                     |                                       |                    | _                                     | _       |              | _            |                    |
| Bi-213              | 6.1E-15                               | 2.1E-01            | _                                     | _       | 4.6E-12      | —<br>2.5E.12 | 2.1E-01            |
| Bi-214              | 3.6E-11                               | 7.9E-06            | _                                     |         | 3.5E-10      | 3.5E-12      | 7.9E-06            |
| C-14                |                                       | 4.8E-04            |                                       | 1.1E+00 |              | _            | 1.2E+00            |
| Cd-113m             |                                       | —                  |                                       |         |              |              | 5.9E-01            |
| Ce-141              |                                       | _                  | _                                     | _       | _            | _            | 4.3E-19            |
| Ce-144              |                                       | 6.2E-07            | _                                     | _       | _            | _            | 7.3E+00            |
| Cf-249              |                                       | 4.9E-03            | _                                     | _       |              | _            | 4.9E-03            |
| Cf-250              |                                       | 8.7E-02            | _                                     | _       |              | _            | 8.7E-02            |
| Cf-251              |                                       | 9.3E-04            | _                                     | _       | _            | _            | 9.3E-04            |
| Cf-252              |                                       | 1.0E-01            | _                                     | _       | _            | _            | 1.0E-01            |
| Cm-242              |                                       | 8.9E-12            | _                                     | _       | _            | _            | 4.2E-03            |
| Cm-243              |                                       | 3.1E-07            | _                                     | _       | 3.8E-02      | _            | 5.1E-01            |
| Cm-244              |                                       | 1.2E+03            | _                                     | _       | 4.2E-01      | _            | 1.3E+03            |
| Cm-245              |                                       | 6.9E-06            | _                                     | _       | _            | _            | 1.1E-02            |
| Cm-246              |                                       | 3.9E+00            | _                                     | _       | _            | _            | 3.9E+00            |
| Cm-247              |                                       | 7.1E-10            | _                                     |         |              | 5.5E+01      | 5.5E+01            |
| Cm-248              |                                       | 1.1E-02            |                                       |         |              |              | 1.1E-02            |
| Co-60               |                                       | 1.7E+02            | 8.8E+02                               |         | 3.3E-02      |              | 1.9E+03            |
| Cs-134              |                                       | 4.5E-03            | —                                     | _       | 1.6E+01      |              | 1.2E+02            |
| Cs-135              |                                       |                    |                                       |         |              |              | 4.0E-04            |
| Cs-137              | 1.6E+01                               | 1.6E+04            | 2.8E+05                               | 1.2E+05 | 4.9E+02      | 6.2E+01      | 4.4E+05            |
| Eu-152              | 1.02101                               | 2.4E+03            | 2.01.103                              | 1.21103 | 1.56102      | 0.21101      | 2.7E+03            |
| Eu-152<br>Eu-154    |                                       | 8.2E+02            | _                                     | _       | 1.3E+00      | _            | 1.3E+03            |
| -                   |                                       |                    | _                                     | _       | 1.3E+00      | _            |                    |
| Eu-155              | 7.9E-03                               | 8.2E+01            | _                                     | _       | _            | _            | 4.1E+02            |
| Fe-55               | - C 1E 15                             |                    | _                                     | _       | —<br>4 CE 10 | _            | 1.5E-01            |
| Fr-221              | 6.1E-15                               | 2.1E-01            | _                                     |         | 4.6E-12      |              | 2.1E-01            |
| Fr-223              | 3.3E-10                               | 3.1E-07            | _                                     | _       | 6.0E-11      | _            | 3.1E-07            |
| Gd-152              | — — — — — — — — — — — — — — — — — — — | 1.1E-10            | — — — — — — — — — — — — — — — — — — — | _       | _            | _            | 1.1E-10            |

\*Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide          | AE      | AW                 | Battelle | Bettis  | ETEC               | INEEL   | KAPL    |
|------------------|---------|--------------------|----------|---------|--------------------|---------|---------|
| H-3              | _       | 6.8E-04            | _        | _       | _                  | _       | _       |
| I-129            | _       | _                  | _        | 2.1E-03 | _                  | _       | 3.7E-05 |
| Kr-85            | 4.1E-01 | _                  | _        | _       |                    |         | _       |
| Mn-54            | 2.5E-09 | 2.1E+00            | _        | —       |                    |         | _       |
| Na-22            | _       | 3.4E-01            |          | _       | _                  | _       | _       |
| Nb-93m           | 9.2E-04 |                    |          | _       |                    | _       | 1.2E-04 |
| Nb-95            | _       | 2.4E-13            | _        | _       |                    | _       | _       |
| Nb-95m           | _       | 8.1E-16            | _        | —       |                    |         |         |
| Ni-59            | _       | _                  | _        | 2.3E+01 |                    |         | 1.8E-04 |
| Ni-63            | —       |                    |          | 1.1E+03 |                    |         | 1.9E-02 |
| Np-237           | 1.7E-03 | 1.9E-03            | 1.2E-02  | 1.7E-02 | 2.7E-06            | 6.8E-05 | 8.5E-04 |
| Np-238           | _       | 2.5E-05            | _        | —       |                    |         |         |
| Np-239           | 3.1E-05 | 5.3E-04            | _        | _       |                    |         | 5.2E-05 |
| Np-240m          | _       | _                  | _        | _       | _                  | _       | 1.7E-12 |
| Pa-231           | 8.9E-08 | 7.3E-07            | _        | _       | 1.5E-07            | 2.0E-07 | 9.7E-08 |
| Pa-233           | 1.6E-03 | 1.9E-03            | _        | _       | 2.6E-06            | 6.8E-05 | 8.4E-04 |
| Pa-234           | 7.8E-08 | 5.9E-07            | _        |         | 2.9E-06            | 1.4E-15 | 4.1E-10 |
| Pa-234m          | 6.0E-05 | 4.6E-04            | _        | _       | 2.2E-03            | 1.1E-12 | 3.1E-07 |
| Pb-209           | 4.6E-07 | 1.2E-04            | _        | _       | 3.2E-14            | 2.2E-13 | 9.6E-10 |
| Pb-210           | 7.0E-11 | 4.3E-11            | _        | _       | 9.9E-16            | 9.3E-11 | 2.5E-09 |
| Pb-211           | 2.9E-08 | 6.5E-08            | _        | _       | 1.8E-08            | 2.1E-08 | 4.8E-08 |
| Pb-212           | 1.1E-15 | 5.6E-15            | _        | _       | 5.4E-18            | 9.8E-17 | 1.0E-05 |
| Pb-214           | 3.9E-10 | 7.2E-10            | _        | _       | 1.7E-14            | 1.8E-09 | 9.5E-09 |
| Pd-107           |         | _                  | _        | _       | _                  |         | 1.7E-05 |
| Pm-147           | 3.0E-02 | 3.7E+02            |          | 2.8E+02 |                    |         | 5.9E-02 |
| Po-210           | 7.0E-11 | 4.3E-11            | _        |         | 9.9E-16            | 9.3E-11 | 2.0E-09 |
| Po-211           | 8.8E-11 | 2.0E-10            |          |         | 5.4E-11            | 6.3E-11 | 1.5E-10 |
| Po-212           | 6.8E-16 | 3.6E-15            |          |         | 3.5E-18            | 6.3E-17 | 6.6E-06 |
| Po-213           | 4.5E-07 | 1.2E-04            |          |         | 3.1E-14            | 2.2E-13 | 9.4E-10 |
| Po-214           | 3.9E-10 | 7.2E-10            | _        |         | 1.7E-14            |         | 9.5E-09 |
| Po-215           | 2.9E-08 | 6.5E-08            |          | _       | 1.7E 14<br>1.8E-08 | 2.1E-08 | 4.8E-08 |
| Po-216           | 1.1E-15 | 5.6E-15            |          | _       | 5.4E-18            | 9.8E-17 | 1.0E-05 |
| Po-218           | 3.8E-10 |                    | _        |         |                    | 1.7E-09 |         |
| P0-218<br>Pr-144 | 2.0E-09 | 7.1E-10<br>7.2E+00 |          | _       | 1.6E-14            | 1./E-09 | 9.3E-09 |
| Pu-238           | 9.2E+00 | 1.2E+00            | 7.8E+01  | 2.8E+02 | <br>1.5E-02        | 2.7E+03 | 2.8E+00 |
|                  | -       | -                  |          |         |                    |         |         |
| Pu-239           | 1.8E+01 | 2.5E+01            | 1.0E+01  | 2.2E-01 | 1.1E+00            | 3.5E+01 | 7.6E-03 |
| Pu-240           | 3.8E+00 | 2.3E+01            | 1.6E+01  | 4.5E-01 | 2.7E-01            | 3.3E+01 | 1.9E-03 |
| Pu-241           | 3.0E+01 | 7.2E+02            | 1.3E+03  | 4.8E+01 | 2.2E+00            | 6.6E+01 | 2.7E-01 |
| Pu-242           | _       | 5.5E-04            | 4.8E-02  | 3.5E-03 | _                  | 1.0E-03 | 7.2E-06 |
| Pu-243           | _       | _                  |          | _       | _                  | _       | 1.5E-13 |
| Pu-244           | _       | _                  | _        | 2.0E-10 | _                  | _       | 1.7E-12 |
| Ra-223           | 2.9E-08 | 6.5E-08            | _        | _       | 1.8E-08            | 2.1E-08 | 4.9E-08 |

<sup>\*</sup>Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | LANL           | ORNL    | Hanford | Hanf-RP | SNL     | SRS     | Total   |
|---------|----------------|---------|---------|---------|---------|---------|---------|
| H-3     | _              | 2.6E-01 | _       | _       | _       | _       | 2.6E-01 |
| I-129   |                | _       | _       | 8.0E-02 | _       | _       | 8.2E-02 |
| Kr-85   | _              | _       | _       | _       | _       | _       | 4.1E-01 |
| Mn-54   | _              | _       | _       | _       | _       | _       | 2.1E+00 |
| Na-22   | _              | _       | _       | _       | _       | _       | 3.4E-01 |
| Nb-93m  | _              | _       | _       | _       | _       | _       | 1.0E-03 |
| Nb-95   |                | _       | _       | _       | _       | _       | 2.4E-13 |
| Nb-95m  |                | _       | _       |         | _       | _       | 8.1E-16 |
| Ni-59   |                | _       | _       |         | _       | _       | 2.3E+01 |
| Ni-63   |                |         |         |         | _       |         | 1.1E+03 |
| Np-237  | 1.6E-07        | 1.8E-03 |         | 6.4E-01 | 9.0E-04 | _       | 6.7E-01 |
| Np-238  | _              | _       | _       | _       | _       | _       | 2.5E-05 |
| Np-239  | _              | 3.2E-01 | _       | _       | _       | 4.1E-02 | 3.7E-01 |
| Np-240m | _              | 6.5E-03 | _       | _       | _       | _       | 6.5E-03 |
| Pa-231  | 6.6E-08        | 9.9E-05 | _       | _       | 5.8E-08 | 5.3E-19 |         |
| Pa-233  | 1.6E-07        | 1.8E-03 |         |         | 9.0E-04 |         | 7.2E-03 |
| Pa-234  | 5.7E-10        | 1.6E-02 | _       | _       | 2.4E-07 |         | 1.6E-02 |
| Pa-234m | 4.4E-07        | 1.3E+01 | _       |         | 1.8E-04 | _       | 1.3E+01 |
| Pb-209  | 6.1E-15        | 2.1E-01 | _       |         | 4.6E-12 | _       | 2.1E-01 |
| Pb-210  | 9.2E-12        | 1.2E-06 | _       |         | 1.8E-11 | 2.1E-13 | 1.2E-06 |
| Pb-211  | 2.4E-08        | 2.2E-05 |         | _       | 4.3E-09 |         | 2.3E-05 |
| Pb-212  | 1.0E-16        | 1.6E+01 | _       |         | 3.2E-19 |         | 1.6E+01 |
| Pb-214  | 3.6E-11        | 7.9E-06 | _       | _       | 3.5E-10 | 3.5E-12 | 7.9E-06 |
| Pd-107  | _              | _       | _       | _       | _       | _       | 1.7E-05 |
| Pm-147  |                | _       |         |         | 7.0E+00 | 2.2E+00 | 6.6E+02 |
| Po-210  | 9.2E-12        | 1.2E-06 |         | _       | 1.8E-11 | 2.1E-13 | 1.2E-06 |
| Po-211  | 7.2E-11        | 6.8E-08 | _       |         | 1.3E-11 |         | 6.9E-08 |
| Po-212  | 6.6E-17        | 1.0E+01 | _       |         | 2.1E-19 |         | 1.0E+01 |
| Po-213  | 6.0E-15        | 2.1E-01 | _       |         | 4.5E-12 |         | 2.1E-01 |
| Po-214  | 3.6E-11        | 7.9E-06 | _       |         | 3.5E-10 | 3.5E-12 | 7.9E-06 |
| Po-215  | 2.4E-08        | 2.2E-05 | _       |         | 4.3E-09 | _       | 2.3E-05 |
| Po-216  | 1.0E-16        | 1.6E+01 | _       |         | 3.2E-19 |         | 1.6E+01 |
| Po-218  | 3.5E-11        | 7.8E-06 | _       |         | 3.5E-10 | 3.5E-12 | 7.8E-06 |
| Pr-144  |                | 6.1E-07 | _       | _       | _       | _       | 7.2E+00 |
| Pu-238  | 1.3E-02        | 2.5E+02 | 5.3E+02 | 1.0E+01 | 4.2E+00 | 3.6E+00 | 3.9E+03 |
| Pu-239  | 2.5E+00        | 1.4E+02 | 8.6E+02 | 4.2E+03 | 2.8E+00 | 4.8E-06 | 5.3E+03 |
| Pu-240  | 2.7E-02        | 3.4E+01 | 4.6E+02 | 1.0E+03 | 4.3E-01 | _       | 1.6E+03 |
| Pu-241  | 2.2E-01        | 1.5E+02 | 1.2E+05 | 1.8E+04 | 2.5E-02 | _       | 1.4E+05 |
| Pu-242  | 1.6E-05        | 7.1E-02 | 1.5E-01 | 2.2E-01 | _       | _       | 4.9E-01 |
| Pu-243  |                | 7.0E-10 | _       | _       | _       | 5.4E+01 | 5.4E+01 |
| Pu-244  |                | 6.4E-03 | _       | _       | _       | _       | 6.4E-03 |
| Ra-223  | 2.4E-08        | 2.3E-05 | _       | _       | 4.4E-09 | _       | 2.3E-05 |
|         | rough December |         |         |         |         |         |         |

<sup>\*</sup>Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*—Continued

| Nuclide | AE              | AW           | Battelle | Bettis  | ETEC    | INEEL   | KAPL    |
|---------|-----------------|--------------|----------|---------|---------|---------|---------|
| Ra-224  | 1.1E-15         | 5.5E-15      | _        | _       | 5.4E-18 | 9.8E-17 | 1.0E-05 |
| Ra-225  | 4.6E-07         | 1.2E-04      | _        | _       | 3.2E-14 | 2.2E-13 | 9.6E-10 |
| Ra-226  | 3.9E-10         | 7.3E-10      | _        |         | 1.7E-14 | 1.8E-09 | 9.6E-09 |
| Ra-228  | 1.3E-15         | 1.4E-14      | _        | _       | 1.1E-17 | 2.8E-16 | 4.1E-11 |
| Rh-106  | 3.6E-07         | _            | _        | _       | _       |         |         |
| Rn-219  | 2.9E-08         | 6.5E-08      | _        | _       | 1.8E-08 | 2.1E-08 | 4.8E-08 |
| Rn-220  | 1.1E-15         | 5.6E-15      | _        | _       | 5.4E-18 | 9.8E-17 | 1.0E-05 |
| Rn-222  | 3.9E-10         | 7.2E-10      | _        | _       | 1.7E-14 | 1.8E-09 | 9.5E-09 |
| Ru-106  | 3.6E-07         | _            | _        | _       |         | _       | _       |
| Sb-125  | 3.7E-03         | 5.0E+00      | 2.8E-03  | _       | _       | _       | _       |
| Sb-126  | 1.2E-04         | _            | _        | _       | _       | _       | 4.7E-05 |
| Sb-126m | 8.7E-04         | _            | _        | _       | _       | _       | 3.4E-04 |
| Se-79   | _               | _            | _        | 4.0E-02 | _       | _       | 1.0E-04 |
| Sm-147  | 9.3E-10         | 3.5E-08      | _        | _       |         | _       | 4.4E-13 |
| Sm-151  | 2.0E+00         | 3.5E+01      | _        | 3.1E+01 | _       | _       | 1.2E+00 |
| Sn-121m | _               | _            | _        | _       | _       | _       | 3.0E-03 |
| Sn-126  | 8.7E-04         | _            | _        | _       | _       | _       | 3.4E-04 |
| Sr-90   | 2.6E+01         | 1.3E+04      | 1.5E+03  | 6.4E+03 | 9.5E+00 | _       | 7.3E+01 |
| Tc-99   | 1.1E-02         |              | 4.4E-01  | 1.4E+00 |         |         | 2.1E-02 |
| Te-125m | 8.9E-04         | 1.2E+00      | _        | _       | _       | _       | _       |
| Th-227  | 2.8E-08         | 6.4E-08      | _        |         | 1.7E-08 | 2.0E-08 | 4.7E-08 |
| Th-228  | 1.1E-15         | 5.6E-15      | _        | _       | 5.5E-18 | 9.9E-17 | 1.1E-05 |
| Th-229  | 4.7E-07         | 1.2E-04      | _        |         | 3.2E-14 | 2.2E-13 | 9.6E-10 |
| Th-230  | 9.8E-08         | 5.6E-07      | _        | _       | 1.4E-11 | 1.8E-06 | 1.4E-06 |
| Th-231  | 1.5E-04         | 5.7E-03      | _        | _       | 8.9E-04 | 1.4E-03 | 7.1E-05 |
| Th-232  | 2.1E-15         | 4.7E-14      | _        | 1.7E-11 | 2.9E-17 | 1.2E-15 | 4.1E-11 |
| Th-234  | 6.0E-05         | 4.6E-04      | _        | _       | 2.2E-03 | 1.1E-12 | 3.1E-07 |
| T1-207  | 2.9E-08         | 6.4E-08      | _        | _       | 1.8E-08 | 2.1E-08 | 4.8E-08 |
| T1-208  | 3.8E-16         | 2.0E-15      | 2.3E-03  | _       | 2.0E-18 | 3.5E-17 | 3.7E-06 |
| T1-209  | 1.0E-08         | 2.6E-06      | _        | _       | 7.1E-16 | 4.9E-15 | 2.1E-11 |
| U-232   | _               | _            | 7.4E-04  | 4.0E-03 | _       | _       | 3.4E-05 |
| U-233   | 1.8E-04         | 2.1E-01      | 1.3E-06  | _       | 7.6E-11 | 1.0E-09 | 3.9E-07 |
| U-234   | 7.8E-04         | 1.0E-02      | 2.8E-02  | 6.0E-01 | 4.0E-07 | 5.5E-02 | 4.8E-03 |
| U-235   | 1.6E-04         | 5.7E-03      | 4.1E-04  | 7.8E-03 | 9.0E-04 | 1.4E-03 | 7.2E-05 |
| U-236   | 3.1E-06         | 1.6E-04      | 5.4E-03  | 8.9E-02 | 9.4E-08 | 6.8E-06 | 6.8E-04 |
| U-237   | 7.3E-04         | 1.8E-02      |          |         | 5.4E-05 | 1.6E-03 | 6.6E-06 |
| U-238   | 6.1E-05         | 4.6E-04      | 8.0E-03  | 3.6E-05 | 2.3E-03 | 1.1E-12 | 3.2E-07 |
| U-240   | _               | _            | _        | _       | _       | _       | 1.7E-12 |
| Y-90    | 2.5E+01         | 1.3E+04      | _        | 6.4E+03 | 9.4E+00 |         | 7.3E+01 |
| Y-91    |                 | 4.7E-12      |          |         | _       |         |         |
| Zr-93   | 1.3E-03         |              | _        | 3.4E-01 | _       |         | 2.6E-03 |
| Zr-95   | _               | 1.1E-13      | _        | _       | _       | _       | _       |
| TOTAL   | 2.1E+02         | 5.2E+04      | 5.8E+03  | 2.8E+04 | 4.2E+01 | 3.3E+03 | 3.0E+02 |
|         | ed through Dece | mbor 21 2001 |          |         |         |         |         |

<sup>\*</sup>Data decayed through December 31, 2001. Date Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 31. RH-TRU Waste Curies on a Site-by-Site Basis\*---Continued

| Ra-224         1.0E-16         1.6E+01         —         3.2E-19         —           Ra-225         6.1E-15         2.1E-01         —         4.6E-12         —           Ra-226         3.6E-11         8.0E-06         —         3.6E-10         3.6E-12           Ra-228         1.2E-16         9.8E-01         —         1.4E-18         —           Rh-106         1.3E-10         2.2E-03         —         —         —           Rn-219         2.4E-08         2.2E-05         —         4.3E-09         —           Rn-220         1.0E-16         1.6E+01         —         3.2E-19         —           Rn-222         3.6E-11         7.9E-06         —         3.5E-10         3.5E-12           Ru-106         1.3E-10         2.3E-03         —         —         —           Sb-125         5.5E-04         1.3E-02         —         —         —           Sb-126         —         —         —         —         —           Sb-126m         —         —         —         —         —           Sm-147         —         —         —         —         —           Sm-121m         —         —                 | 1.6E+01<br>2.1E-01<br>8.0E-06<br>9.8E-01<br>2.2E-03<br>2.3E-05<br>1.6E+01<br>7.9E-06 |
|---|--|
| Ra-226         3.6E-11         8.0E-06         —         3.6E-10         3.6E-12           Ra-228         1.2E-16         9.8E-01         —         1.4E-18         —           Rh-106         1.3E-10         2.2E-03         —         —         —           Rn-219         2.4E-08         2.2E-05         —         4.3E-09         —           Rn-220         1.0E-16         1.6E+01         —         3.2E-19         —           Rn-222         3.6E-11         7.9E-06         —         —         3.5E-10         3.5E-12           Ru-106         1.3E-10         2.3E-03         —         —         —         —           Sb-125         5.5E-04         1.3E-02         —         —         —         —           Sb-126         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —         —           Se-79         —         —         —         —         —         —         —           Sm-121m         —         —                              | 8.0E-06<br>9.8E-01<br>2.2E-03<br>2.3E-05<br>1.6E+01                                  |
| Ra-228         1.2E-16         9.8E-01         —         —         1.4E-18         —           Rh-106         1.3E-10         2.2E-03         —         —         —         —           Rn-219         2.4E-08         2.2E-05         —         4.3E-09         —           Rn-220         1.0E-16         1.6E+01         —         3.2E-19         —           Rn-222         3.6E-11         7.9E-06         —         —         3.5E-10         3.5E-12           Ru-106         1.3E-10         2.3E-03         —         —         —         —           Sb-125         5.5E-04         1.3E-02         —         —         —         —           Sb-126         —         —         —         —         —         —         —           Sb-126m         —             | 9.8E-01<br>2.2E-03<br>2.3E-05<br>1.6E+01   |
| Rh-106       1.3E-10       2.2E-03       —       —       —       —         Rn-219       2.4E-08       2.2E-05       —       4.3E-09       —         Rn-220       1.0E-16       1.6E+01       —       3.2E-19       —         Rn-222       3.6E-11       7.9E-06       —       —       3.5E-10       3.5E-12         Ru-106       1.3E-10       2.3E-03       —       —       —       —         Sb-125       5.5E-04       1.3E-02       —       —       —       —         Sb-126       —       —       —       —       —       —         Sb-126m       —       —       —       —       —       —         Sb-126m       —       —       —       —       —       —       —       —         Sb-126m       —  | 2.2E-03<br>2.3E-05<br>1.6E+01  |
| Rn-219         2.4E-08         2.2E-05         —         4.3E-09         —           Rn-220         1.0E-16         1.6E+01         —         3.2E-19         —           Rn-222         3.6E-11         7.9E-06         —         —         3.5E-10         3.5E-12           Ru-106         1.3E-10         2.3E-03         —         —         —         —           Sb-125         5.5E-04         1.3E-02         —         —         —         —           Sb-126         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —         —           Sb-126m         —                               | 2.3E-05<br>1.6E+01   |
| Rn-220         1.0E-16         1.6E+01         —         3.2E-19         —           Rn-222         3.6E-11         7.9E-06         —         —         3.5E-10         3.5E-12           Ru-106         1.3E-10         2.3E-03         —         —         —         —           Sb-125         5.5E-04         1.3E-02         —         —         —         —           Sb-126         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —         —           Sb-126m         —                                    | 2.3E-05<br>1.6E+01   |
| Rn-222     3.6E-11     7.9E-06     —     3.5E-10     3.5E-12       Ru-106     1.3E-10     2.3E-03     —     —     —       Sb-125     5.5E-04     1.3E-02     —     —     —       Sb-126     —     —     —     —       Sb-126m     —     —     —     —       Se-79     —     —     —     —       Sm-147     —     —     —     —       Sm-147     —     —     —     4.7E-10     4.0E-10       Sm-151     —     —     —     —       Sn-121m     —     —     —     —       Sn-121m     —     —     —     —       Sn-126     —     —     —     —       Sr-90     1.5E+01     5.6E+04     1.8E+05     7.5E+04     4.9E+02     5.8E+01       Tc-99     —     6.5E-09     6.6E-03     1.6E+02     —     —       Th-227     2.3E-08     2.2E-05     —     4.3E-09     —       Th-228     1.1E-16     1.6E+01     —     —     3.3E-19     —       Th-230     5.5E-09     2.2E-03     —     3.3E-07     3.1E-09  |  |
| Ru-106     1.3E-10     2.3E-03     —     —     —       Sb-125     5.5E-04     1.3E-02     —     —     —       Sb-126     —     —     —     —       Sb-126m     —     —     —     —       Sb-126m     —     —     —     —       Se-79     —     —     —     —       Sm-147     —     —     —     —       Sm-151     —     —     —     —       Sn-121m     —     —     —     —       Sn-126     —     —     —     —       Sr-90     1.5E+01     5.6E+04     1.8E+05     7.5E+04     4.9E+02     5.8E+01       Tc-99     —     6.5E-09     6.6E-03     1.6E+02     —     —       Th-227     2.3E-08     2.2E-05     —     —     4.3E-09     —       Th-228     1.1E-16     1.6E+01     —     —     4.6E-12     —       Th-230     5.5E-09     2.2E-03     —     3.3E-07     3.1E-09  | 7.9E-06  |
| Sb-125         5.5E-04         1.3E-02         —         —         —         —           Sb-126         —         —         —         —         —         —           Sb-126m         —         —         —         —         —         —         —           Sb-126m         —                                       |  |
| Sb-126         — <td>2.3E-03</td>       | 2.3E-03  |
| Sb-126m         — </td <td>5.0E+00</td> | 5.0E+00  |
| Se-79       — <td>1.7E-04</td>  | 1.7E-04  |
| Sm-147         —         —         —         4.7E-10         4.0E-10           Sm-151         —         —         3.0E+02         2.4E+02         —         —           Sn-121m         —         —         —         —         —         —           Sn-126         —         —         —         —         —         —           Sr-90         1.5E+01         5.6E+04         1.8E+05         7.5E+04         4.9E+02         5.8E+01           Tc-99         —         6.5E-09         6.6E-03         1.6E+02         —         —           Te-125m         1.3E-04         3.1E-03         —         —         —         —           Th-227         2.3E-08         2.2E-05         —         4.3E-09         —           Th-228         1.1E-16         1.6E+01         —         3.3E-19         —           Th-229         6.1E-15         2.1E-01         —         4.6E-12         —           Th-230         5.5E-09         2.2E-03         —         3.3E-07         3.1E-09  | 1.2E-03  |
| Sm-151         —         3.0E+02         2.4E+02         —         —           Sn-121m         —         —         —         —         —           Sn-126         —         —         —         —         —           Sr-90         1.5E+01         5.6E+04         1.8E+05         7.5E+04         4.9E+02         5.8E+01           Tc-99         —         6.5E-09         6.6E-03         1.6E+02         —         —           Te-125m         1.3E-04         3.1E-03         —         —         —         —           Th-227         2.3E-08         2.2E-05         —         4.3E-09         —           Th-228         1.1E-16         1.6E+01         —         3.3E-19         —           Th-229         6.1E-15         2.1E-01         —         4.6E-12         —           Th-230         5.5E-09         2.2E-03         —         3.3E-07         3.1E-09   | 4.0E-02  |
| Sn-121m         — </td <td>3.7E-08</td> | 3.7E-08  |
| Sn-126         — <td>6.0E+02</td>       | 6.0E+02  |
| Sn-126         — <td>3.0E-03</td>       | 3.0E-03  |
| Sr-90         1.5E+01         5.6E+04         1.8E+05         7.5E+04         4.9E+02         5.8E+01           Tc-99         —         6.5E-09         6.6E-03         1.6E+02         —         —           Te-125m         1.3E-04         3.1E-03         —         —         —         —           Th-227         2.3E-08         2.2E-05         —         —         4.3E-09         —           Th-228         1.1E-16         1.6E+01         —         —         3.3E-19         —           Th-229         6.1E-15         2.1E-01         —         —         4.6E-12         —           Th-230         5.5E-09         2.2E-03         —         3.3E-07         3.1E-09   | 1.2E-03  |
| Tc-99         —         6.5E-09         6.6E-03         1.6E+02         —         —           Te-125m         1.3E-04         3.1E-03         —         —         —         —           Th-227         2.3E-08         2.2E-05         —         4.3E-09         —           Th-228         1.1E-16         1.6E+01         —         3.3E-19         —           Th-229         6.1E-15         2.1E-01         —         4.6E-12         —           Th-230         5.5E-09         2.2E-03         —         3.3E-07         3.1E-09   | 3.4E+05  |
| Th-227     2.3E-08     2.2E-05     —     4.3E-09     —       Th-228     1.1E-16     1.6E+01     —     3.3E-19     —       Th-229     6.1E-15     2.1E-01     —     4.6E-12     —       Th-230     5.5E-09     2.2E-03     —     3.3E-07     3.1E-09   | 1.6E+02  |
| Th-227     2.3E-08     2.2E-05     —     4.3E-09     —       Th-228     1.1E-16     1.6E+01     —     3.3E-19     —       Th-229     6.1E-15     2.1E-01     —     4.6E-12     —       Th-230     5.5E-09     2.2E-03     —     3.3E-07     3.1E-09   | 1.2E+00  |
| Th-229         6.1E-15         2.1E-01         —         4.6E-12         —           Th-230         5.5E-09         2.2E-03         —         3.3E-07         3.1E-09   | 2.2E-05  |
| Th-229 6.1E-15 2.1E-01 — 4.6E-12 — Th-230 5.5E-09 2.2E-03 — 3.3E-07 3.1E-09   | 1.6E+01  |
| Th-230 5.5E-09 2.2E-03 — 3.3E-07 3.1E-09  | 2.1E-01  |
|   | 2.2E-03  |
| Th-231   9.9E-05  2.7E-01  —   5.4E-04  1.2E-14   | 2.8E-01  |
| Th-232 1.5E-16 1.0E+00 4.3E-02 — 7.8E-18 —  | 1.1E+00  |
| Th-234 4.4E-07 1.3E+01 — — 1.8E-04 —  | 1.3E+01  |
| TI-207 2.4E-08 2.2E-05 — 4.3E-09 —  | 2.3E-05  |
| TI-208 3.7E-17 5.6E+00 — — 1.2E-19 —  | 5.7E+00  |
| TI-209 1.4E-16 4.7E-03 — — 1.0E-13 —  | 4.7E-03  |
| U-232 — 1.5E+01 — — — —   | 1.5E+01  |
| U-233 7.9E-12 1.4E+02 8.5E+00 2.3E+00 1.9E-08 —   | 1.5E+02  |
| U-234 2.0E-05 1.4E+01 2.9E+00 1.5E+01 7.4E-03 8.4E-05   | 3.2E+01  |
| U-235 1.0E-04 2.8E-01 2.8E-01 5.6E-01 5.5E-04 1.3E-14   | 1.1E+00  |
| U-236 1.1E-07 4.9E-02 2.1E-04 1.2E+00 6.3E-08 —   | 1.3E+00  |
| U-237 5.5E-06 3.7E-03 — 6.1E-07 —   | 2.4E-02  |
| U-238 4.4E-07 1.3E+01 2.7E-02 1.3E+02 1.8E-04 —   | 1.4E+02  |
| U-240 — 6.4E-03 — — — —   | 6.4E-03  |
| Y-90 1.5E+01 5.6E+04 1.8E+05 7.5E+04 4.8E+02 5.7E+01  | 3.3E+05  |
| Y-91 — — — — — —  | 4.7E-12  |
| Zr-93 — — — — — — —   | 3.4E-01  |
| Zr-95 — — — — — — —   | 1.1E-13  |
| TOTAL 6.4E+01 1.5E+05 1.0E+06 4.3E+05 2.0E+03 3.5E+02   |  |

<sup>\*</sup>Data decayed through December 31, 2001. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Table 32. WIPP Disposal Radionuclide Inventory for the  $\mathbf{CRA}^{1,2}$ 

| Nuclide | CH-TRU Waste<br>Concentration<br>(Ci/m³) | RH-TRU Waste<br>Concentration<br>(Ci/m³) | CH-TRU Waste<br>(Total Curies) | RH-TRU Waste<br>(Total Curies) |
|---------|--|--|--------------------------------|--------------------------------|
| Ac-225  | 8.0E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.8E-01                        |
| Ac-227  | 2.2E-06                                  | 2.8E-09                                  | 3.6E-01                        | 2.0E-05                        |
| Ac-228  | 1.1E-05                                  | 1.0E-04                                  | 1.8E+00                        | 7.2E-01                        |
| Ag-109m | 7.5E-10                                  | NR                                       | 1.3E-04                        | NR                             |
| Ag-110  | 1.9E-16                                  | 1.4E-14                                  | 3.1E-11                        | 9.6E-11                        |
| Ag-110m | 1.4E-14                                  | 1.0E-12                                  | 2.4E-09                        | 7.3E-09                        |
| Am-241  | 2.8E+00                                  | 2.0E+00                                  | 4.8E+05                        | 1.4E+04                        |
| Am-242  | 2.8E-07                                  | 6.0E-07                                  | 4.7E-02                        | 4.3E-03                        |
| Am-242m | 2.8E-07                                  | 2.9E-05                                  | 4.8E-02                        | 2.1E-01                        |
| Am-243  | 4.6E-04                                  | 1.4E-04                                  | 7.8E+01                        | 9.9E-01                        |
| Am-245  | 5.6E-16                                  | NR                                       | 9.4E-11                        | NR                             |
| At-217  | 8.1E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.9E-01                        |
| Ba-137m | 4.1E-02                                  | 5.6E+01                                  | 6.9E+03                        | 3.9E+05                        |
| Bi-210  | 1.1E-05                                  | 1.5E-10                                  | 1.9E+00                        | 1.1E-06                        |
| Bi-211  | 2.1E-06                                  | 2.8E-09                                  | 3.6E-01                        | 1.9E-05                        |
| Bi-212  | 1.7E-05                                  | 1.9E-03                                  | 2.8E+00                        | 1.4E+01                        |
| Bi-213  | 8.0E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.8E-01                        |
| Bi-214  | 2.7E-05                                  | 9.6E-10                                  | 4.6E+00                        | 6.8E-06                        |
| Bk-249  | 3.8E-11                                  | NR                                       | 6.5E-06                        | NR                             |
| Bk-250  | 1.5E-17                                  | NR                                       | 2.6E-12                        | NR                             |
| C-14    | 7.2E-06                                  | 1.7E-04                                  | 1.2E+00                        | 1.2E+00                        |
| Cd-109  | 7.6E-10                                  | NR                                       | 1.3E-04                        | NR                             |
| Cd-113m | NR                                       | 7.4E-05                                  | NR                             | 5.2E-01                        |
| Ce-141  | NR                                       | 5.9E-23                                  | NR                             | 4.2E-19                        |
| Ce-144  | 2.1E-09                                  | 9.1E-04                                  | 3.6E-04                        | 6.4E+00                        |
| Cf-249  | 3.4E-07                                  | 5.9E-07                                  | 5.8E-02                        | 4.2E-03                        |
| Cf-250  | 1.0E-06                                  | 1.1E-05                                  | 1.7E-01                        | 7.5E-02                        |
| Cf-251  | 1.5E-09                                  | 1.1E-07                                  | 2.6E-04                        | 8.0E-04                        |
| Cf-252  | 1.0E-06                                  | 1.3E-05                                  | 1.7E-01                        | 8.9E-02                        |
| Cm-242  | 2.3E-07                                  | 5.1E-07                                  | 3.9E-02                        | 3.6E-03                        |
| Cm-243  | 2.4E-06                                  | 7.1E-05                                  | 4.0E-01                        | 5.1E-01                        |
| Cm-244  | 3.7E-02                                  | 1.5E-01                                  | 6.2E+03                        | 1.1E+03                        |
| Cm-245  | 3.6E-08                                  | 1.6E-06                                  | 6.0E-03                        | 1.1E-02                        |

NR=Not reported by sites. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Data decayed through 2001.

Total curies estimated by assuming a volume of 5,950,000 cubic feet for CH-TRU waste and 250,000 cubic feet for RH-TRU waste.

Table 32. WIPP Disposal Radionuclide Inventory for the CRA<sup>1,2</sup>—Continued

| Nuclide | CH-TRU Waste<br>Concentration<br>(Ci/m³) | RH-TRU Waste<br>Concentration<br>(Ci/m³) | CH-TRU Waste<br>(Total Curies) | RH-TRU Waste<br>(Total Curies) |
|---------|--|--|--------------------------------|--------------------------------|
| Cm-246  | 6.6E-06                                  | 4.8E-04                                  | 1.1E+00                        | 3.4E+00                        |
| Cm-247  | 1.2E-15                                  | 6.7E-03                                  | 2.0E-10                        | 4.7E+01                        |
| Cm-248  |  | 1.3E-06                                  | 6.5E-02                        | 1                              |
| Cm-250  | 3.9E-07                                  |  |                                | 9.2E-03                        |
| Co-60   | 2.8E-16                                  | NR                                       | 4.7E-11                        | NR                             |
| Cs-134  | 5.8E-06                                  | 2.6E-01                                  | 9.8E-01                        | 1.8E+03                        |
| Cs-135  | 1.2E-07                                  | 1.5E-02                                  | 2.0E-02                        | 1.1E+02                        |
| Cs-137  | NR                                       | 4.9E-08                                  | NR                             | 3.5E-04                        |
|         | 4.4E-02                                  | 6.0E+01                                  | 7.4E+03                        | 4.3E+05                        |
| Eu-152  | 1.1E-05                                  | 3.3E-01                                  | 1.9E+00                        | 2.4E+03                        |
| Eu-154  | 9.4E-06                                  | 1.6E-01                                  | 1.6E+00                        | 1.1E+03                        |
| Eu-155  | 2.9E-07                                  | 4.9E-02                                  | 4.9E-02                        | 3.5E+02                        |
| Fe-55   | NR                                       | 1.9E-05                                  | NR                             | 1.3E-01                        |
| Fr-221  | 8.0E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.8E-01                        |
| Fr-223  | 2.9E-08                                  | 3.8E-11                                  | 4.9E-03                        | 2.7E-07                        |
| Gd-152  | 2.5E-19                                  | 1.4E-14                                  | 4.3E-14                        | 9.8E-11                        |
| H-3     | 1.3E-03                                  | 3.2E-05                                  | 2.2E+02                        | 2.3E-01                        |
| I-129   | 3.0E-09                                  | 1.2E-05                                  | 5.1E-04                        | 8.2E-02                        |
| Kr-85   | 2.7E-06                                  | 5.1E-05                                  | 4.6E-01                        | 3.6E-01                        |
| Mn-54   | NR                                       | 2.9E-04                                  | NR                             | 2.0E+00                        |
| Na-22   | 2.3E-12                                  | 4.6E-05                                  | 3.9E-07                        | 3.3E-01                        |
| Nb-93m  | NR                                       | 1.3E-07                                  | NR                             | 9.1E-04                        |
| Nb-95   | NR                                       | 3.0E-17                                  | NR                             | 2.2E-13                        |
| Nb-95m  | NR                                       | 1.0E-19                                  | NR                             | 7.2E-16                        |
| Ni-59   | 4.5E-07                                  | 3.3E-03                                  | 7.6E-02                        | 2.3E+01                        |
| Ni-63   | 2.2E-05                                  | 1.6E-01                                  | 3.7E+00                        | 1.1E+03                        |
| Np-237  | 3.7E-05                                  | 9.5E-05                                  | 6.2E+00                        | 6.7E-01                        |
| Np-238  | 1.4E-09                                  | 3.0E-09                                  | 2.4E-04                        | 2.2E-05                        |
| Np-239  | 4.6E-04                                  | 4.5E-05                                  | 7.7E+01                        | 3.2E-01                        |
| Np-240m | 7.4E-12                                  | 7.9E-07                                  | 1.3E-06                        | 5.6E-03                        |
| Pa-231  | 5.1E-06                                  | 1.2E-08                                  | 8.7E-01                        | 8.7E-05                        |
| Pa-233  | 3.7E-05                                  | 9.0E-07                                  | 6.2E+00                        | 6.3E-03                        |
| Pa-234  | 4.7E-07                                  | 2.0E-06                                  | 8.0E-02                        | 1.4E-02                        |
| Pa-234m | 3.6E-04                                  | 1.5E-03                                  | 6.1E+01                        | 1.1E+01                        |

NR=Not reported by sites. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Data decayed through 2001.

Total curies estimated by assuming a volume of 5,950,000 cubic feet for CH-TRU waste and 250,000 cubic feet for RH-TRU waste.

Table 32. WIPP Disposal Radionuclide Inventory for the CRA<sup>1,2</sup>—Continued

| Nuclide | CH-TRU Waste<br>Concentration<br>(Ci/m³) | RH-TRU Waste<br>Concentration<br>(Ci/m³) | CH-TRU Waste<br>(Total Curies) | RH-TRU Waste<br>(Total Curies) |
|---------|--|--|--------------------------------|--------------------------------|
| Pb-209  | 8.0E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.8E-01                        |
| Pb-210  | 1.1E-05                                  | 1.5E-10                                  | 1.9E+00                        | 1.1E-06                        |
| Pb-211  | 2.1E-06                                  | 2.8E-09                                  | 3.6E-01                        | 2.0E-05                        |
| Pb-212  | 1.7E-05                                  | 1.9E-03                                  | 2.8E+00                        | 1.4E+01                        |
| Pb-214  | 2.7E-05                                  | 9.6E-10                                  | 4.6E+00                        | 6.8E-06                        |
| Pd-107  | NR                                       | 2.0E-09                                  | NR                             | 1.5E-05                        |
| Pm-147  | 1.0E-05                                  | 8.6E-02                                  | 1.8E+00                        | 6.1E+02                        |
| Po-210  | 1.1E-05                                  | 1.5E-10                                  | 1.9E+00                        | 1.1E-06                        |
| Po-211  | 6.5E-09                                  | 8.4E-12                                  | 1.1E-03                        | 5.9E-08                        |
| Po-212  | 1.1E-05                                  | 1.2E-03                                  | 1.8E+00                        | 8.6E+00                        |
| Po-213  | 7.9E-06                                  | 2.6E-05                                  | 1.3E+00                        | 1.8E-01                        |
| Po-214  | 2.7E-05                                  | 9.6E-10                                  | 4.6E+00                        | 6.8E-06                        |
| Po-215  | 2.1E-06                                  | 2.8E-09                                  | 3.6E-01                        | 2.0E-05                        |
| Po-216  | 1.7E-05                                  | 1.9E-03                                  | 2.8E+00                        | 1.4E+01                        |
| Po-218  | 2.7E-05                                  | 9.5E-10                                  | 4.5E+00                        | 6.7E-06                        |
| Pr-144  | 2.1E-09                                  | 8.9E-04                                  | 3.5E-04                        | 6.3E+00                        |
| Pu-236  | 2.0E-08                                  | NR                                       | 3.3E-03                        | NR                             |
| Pu-238  | 8.6E+00                                  | 5.4E-01                                  | 1.5E+06                        | 3.8E+03                        |
| Pu-239  | 3.4E+00                                  | 7.4E-01                                  | 5.8E+05                        | 5.2E+03                        |
| Pu-240  | 5.6E-01                                  | 2.2E-01                                  | 9.4E+04                        | 1.6E+03                        |
| Pu-241  | 1.2E+01                                  | 1.8E+01                                  | 2.0E+06                        | 1.3E+05                        |
| Pu-242  | 7.2E-05                                  | 6.8E-05                                  | 1.2E+01                        | 4.8E-01                        |
| Pu-243  | 1.2E-15                                  | 6.6E-03                                  | 2.0E-10                        | 4.7E+01                        |
| Pu-244  | 7.4E-12                                  | 7.8E-07                                  | 1.2E-06                        | 5.5E-03                        |
| Ra-223  | 2.2E-06                                  | 2.8E-09                                  | 3.6E-01                        | 2.0E-05                        |
| Ra-224  | 1.7E-05                                  | 1.9E-03                                  | 2.8E+00                        | 1.4E+01                        |
| Ra-225  | 8.1E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.9E-01                        |
| Ra-226  | 2.8E-05                                  | 9.8E-10                                  | 4.6E+00                        | 6.9E-06                        |
| Ra-228  | 1.3E-05                                  | 1.2E-04                                  | 2.1E+00                        | 8.5E-01                        |
| Rh-106  | 8.5E-10                                  | 2.7E-07                                  | 1.4E-04                        | 1.9E-03                        |
| Rn-219  | 2.1E-06                                  | 2.8E-09                                  | 3.6E-01                        | 1.9E-05                        |
| Rn-220  | 1.7E-05                                  | 1.9E-03                                  | 2.8E+00                        | 1.4E+01                        |

NR=Not reported by sites. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Data decayed through 2001.

Total curies estimated by assuming a volume of 5,950,000 cubic feet for CH-TRU waste and 250,000 cubic feet for RH-TRU waste.

Table 32. WIPP Disposal Radionuclide Inventory for the CRA<sup>1,2</sup>—Continued

| Nuclide | CH-TRU Waste<br>Concentration<br>(Ci/m³) | RH-TRU Waste<br>Concentration<br>(Ci/m³) | CH-TRU Waste<br>(Total Curies) | RH-TRU<br>Waste<br>(Total Curies) |
|---------|--|--|--------------------------------|-----------------------------------|
| Rn-222  | 2.7E-05                                  | 9.7E-10                                  | 4.6E+00                        | 6.8E-06                           |
| Ru-106  | 8.6E-10                                  | 2.7E-07                                  | 1.5E-04                        | 1.9E-03                           |
| Sb-125  | 2.1E-08                                  | 6.9E-04                                  | 3.6E-03                        | 4.9E+00                           |
| Sb-126  | NR                                       | 2.1E-08                                  | NR                             | 1.5E-04                           |
| Sb-126m | NR                                       | 1.5E-07                                  | NR                             | 1.1E-03                           |
| Se-79   | 7.8E-10                                  | 5.6E-06                                  | 1.3E-04                        | 4.0E-02                           |
| Sm-147  | 2.1E-15                                  | 4.5E-12                                  | 3.5E-10                        | 3.2E-08                           |
| Sm-151  | 3.4E-04                                  | 8.4E-02                                  | 5.7E+01                        | 6.0E+02                           |
| Sn-121m | NR                                       | 3.7E-07                                  | NR                             | 2.6E-03                           |
| Sn-126  | NR                                       | 1.5E-07                                  | NR                             | 1.1E-03                           |
| Sr-90   | 3.3E-01                                  | 4.6E+01                                  | 5.6E+04                        | 3.2E+05                           |
| Tc-99   | 8.7E-04                                  | 2.3E-02                                  | 1.5E+02                        | 1.6E+02                           |
| Te-123  | 2.9E-10                                  | NR                                       | 4.8E-05                        | NR                                |
| Te-123m | 2.1E-24                                  | NR                                       | 3.6E-19                        | NR                                |
| Te-125m | 5.2E-09                                  | 1.7E-04                                  | 8.7E-04                        | 1.2E+00                           |
| Th-227  | 2.1E-06                                  | 2.7E-09                                  | 3.5E-01                        | 1.9E-05                           |
| Th-228  | 1.7E-05                                  | 1.9E-03                                  | 2.9E+00                        | 1.4E+01                           |
| Th-229  | 8.1E-06                                  | 2.6E-05                                  | 1.4E+00                        | 1.9E-01                           |
| Th-230  | 5.7E-07                                  | 2.7E-07                                  | 9.5E-02                        | 1.9E-03                           |
| Th-231  | 1.7E-05                                  | 3.4E-05                                  | 2.9E+00                        | 2.4E-01                           |
| Th-232  | 1.5E-05                                  | 1.3E-04                                  | 2.5E+00                        | 9.2E-01                           |
| Th-234  | 3.6E-04                                  | 1.5E-03                                  | 6.1E+01                        | 1.1E+01                           |
| T1-207  | 2.1E-06                                  | 2.7E-09                                  | 3.6E-01                        | 1.9E-05                           |
| T1-208  | 6.0E-06                                  | 6.9E-04                                  | 1.0E+00                        | 4.9E+00                           |
| T1-209  | 1.8E-07                                  | 5.7E-07                                  | 3.0E-02                        | 4.1E-03                           |
| U-232   | 7.4E-06                                  | 1.8E-03                                  | 1.3E+00                        | 1.3E+01                           |
| U-233   | 6.5E-03                                  | 1.8E-02                                  | 1.1E+03                        | 1.3E+02                           |
| U-234   | 1.2E-03                                  | 4.3E-03                                  | 2.0E+02                        | 3.0E+01                           |
| U-235   | 2.3E-05                                  | 1.5E-04                                  | 3.9E+00                        | 1.1E+00                           |
| U-236   | 8.7E-06                                  | 1.9E-04                                  | 1.5E+00                        | 1.3E+00                           |
| U-237   | 1.2E-04                                  | 3.2E-06                                  | 2.1E+01                        | 2.3E-02                           |
| U-238   | 4.7E-04                                  | 2.0E-02                                  | 7.9E+01                        | 1.4E+02                           |

NR=Not reported by sites. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

Data decayed through 2001.

Total curies estimated by assuming a volume of 5,950,000 cubic feet for CH-TRU waste and 250,000 cubic feet for RH-TRU waste.

Table 32. WIPP Disposal Radionuclide Inventory for the CRA<sup>1,2</sup>—Continued

| Nuclide | CH-TRU Waste<br>Concentration<br>(Ci/m³) | RH-TRU Waste<br>Concentration<br>(Ci/m <sup>3</sup> ) | CH-TRU Waste<br>(Total Curies) | RH-TRU<br>Waste<br>(Total Curies) |
|---------|--|---|--------------------------------|-----------------------------------|
| U-240   | 7.3E-12                                  | 7.7E-07   | 1.2E-06                        | 5.5E-03                           |
| Y-90    | 3.3E-01                                  | 4.5E+01   | 5.6E+04                        | 3.2E+05                           |
| Y-91    | NR                                       | 5.8E-16   | NR                             | 4.1E-12                           |
| Zn-65   | 9.8E-16                                  | NR  | 1.7E-10                        | NR                                |
| Zr-93   | 6.7E-09                                  | 4.8E-05   | 1.1E-03                        | 3.4E-01                           |
| Zr-95   | NR                                       | 1.4E-17   | NR                             | 9.8E-14                           |
| TOTALS  | 2.8E+01                                  | 2.3E+02   | 4.7E+06                        | 1.6E+06                           |

NR=Not reported by sites. Data Source: TWBID Revision 2.1, Version 3.13, Data Version D.4.16, LANL 2005.

# 3.7 Non-Waste Isolation Pilot Plant and Future Potential Waste

This section identifies waste streams not included in the WIPP inventory used for the PABC (Leigh et al. 2005a; Leigh et al. 2005b). The waste permitted to come to WIPP is restricted by radionuclide activity limits, volume, and purpose of generation (i.e., waste generated only from defense activities). Non-WIPP waste streams are summarized in Section 3.8 and waste profiles and waste streams are presented in Appendix I.

Other restrictions to the waste result from how the waste has been managed at the TRU waste sites. Some materials that have not been declared TRU waste by the DOE TRU waste sites at this time may become TRU waste in the future. Some waste has been identified in the TRU inventory but the option for processing has not been determined at this time. These possible future waste streams may ultimately become eligible for shipment to WIPP and are discussed in Section 3.9.

### 3.8 Non-Defense TRU Waste and Waste Isolation Pilot Plant Future Potential Waste

The DOE has several categories of waste that are currently not acceptable for disposal in WIPP. These are summarized below:

- Non-Defense Waste—The National Security Program (Public Law 96-164, 1980, National Security
  and Military Applications of Nuclear Energy Authorization Act of 1980, 93 Stat. 1259), which
  authorized the construction of the WIPP, states that the WIPP is to be a defense waste repository.
  Therefore, wastes that are identified as non-defense can not be disposed in the WIPP. Some waste
  streams from sites for which a defense determination has not been made are identified in Table 33.
- Pre-1970 buried TRU Waste—Several sites (i.e., LANL, Savannah River Site (SRS), SNL, Hanford Site, INL, ORNL, and West Valley Demonstration Project) have TRU wastes that were buried prior to 1970. INL is currently preparing pre-1970 buried waste for shipment to WIPP. Only INL has included pre-1970 buried waste in the WIPP shippable inventory at this time.

Data decayed through 2001.

Total curies estimated by assuming a volume of 5,950,000 cubic feet for CH-TRU waste and 250,000 cubic feet for RH-TRU waste.

- Classified Waste—Some classified TRU waste, such as TRU-contaminated classified materials
   (materials used in weapons production), is now acceptable for disposal at WIPP. These materials are
   classified for security and national defense purposes due to their physical shape or form and may
   include graphite, metal, tooling, and plastic materials. The same characterization and associated QA
   activities currently required under the WIPP program will be implemented for the characterization of
   classified waste using selected personnel.
- Polychlorinated Biphenyl (PCB) waste—The EPA Region 6 approved the disposal of non-liquid PCB-contaminated TRU waste (PCB/TRU waste) and PCB/TRU waste mixed with hazardous waste (PCB/TRU mixed waste) at the WIPP in May 2003. However, at the time the inventory estimate was prepared for the PABC (Leigh et al. 2005a; Leigh et al. 2005b), this approval had not been received. Therefore PCB/TRU waste > 50 ppm was not included in this updated inventory.
- RH-TRU waste that exceeds 23,000 Ci/m³ (650 Ci/ft³)—This limit is from the LWA (U.S. Congress 1996).

Table 33. Possible Future TRU Waste for WIPP

| Waste Stream ID | Waste Stream Name   | Stored<br>Volumes<br>(m³) | Projected<br>Volumes<br>(m³) | Anticipated<br>Volumes<br>(m³) |
|-----------------|---|---------------------------|------------------------------|--------------------------------|
| BL-001          | Reactor Fuel Test Specimens   | 4.5E+01                   | 0.0E+00                      | 4.5E+01                        |
| FM-MOX-MT0      | Framatome MOX Fuel Plant D&D Mixed TRU Waste                            | 4.2E-01                   | 0.0E+00                      | 4.2E-02                        |
| FM-MOX-T01      | Framatome MOX Fuel Plant D&D TRU Waste                                  | 6.9E+00                   | 0.0E+00                      | 6.9E+00                        |
| LA-OS-00-02     | Isotopic sources waiting determination of eligibility for WIPP disposal | 0.0E+00                   | 1.6E+02                      | 1.6E+02                        |
| LA-TA-00-01     | Containers waiting assignment to waste streams                          | 7.7E+01                   | 0.0E+00                      | 7.7E+01                        |
| LA-TA-00-02     | Containers waiting assignment to waste streams                          | 1.1E+02                   | 0.0E+00                      | 1.1E+02                        |
| LA-TA-00-03     | Containers waiting assignment to waste streams                          | 7.7E+00                   | 0.0E+00                      | 7.7E+00                        |
| LA-TA-00-04     | Containers waiting assignment to waste streams                          | 2.1E+02                   | 0.0E+00                      | 2.1E+02                        |
| LA-TA-00-05     | Containers waiting assignment to waste streams                          | 4.2E+02                   | 0.0E+00                      | 4.2E+02                        |
| LA-TA-00-06     | Containers waiting assignment to waste streams                          | 4.5E+01                   | 0.0E+00                      | 4.5E+0                         |
| LA-TA-00-07     | Containers waiting assignment to waste streams                          | 1.8E+01                   | 0.0E+00                      | 1.8E+0                         |
| LB-T001         | LBL Waste   | 6.2E-01                   | 1.0E+00                      | 1.6E+0                         |
| PA-B015         | Transuranic and Technetium Wastes - Liquid                              | 2.5E+00                   | 0.0E+00                      | 2.5E+0                         |
| PA-W014         | Transuranic Waste Liquid  | 4.2E-01                   | 0.0E+00                      | 4.2E-0                         |
| RF-MT0503       | Un-named Waste Stream   | 1.7E+00                   | 0.0E+00                      | 1.7E+0                         |
| RF-MT0505       | Un-named Waste Stream   | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |
| RF-MT0529       | Un-named Waste Stream   | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |
| RF-MT0533       | Un-named Waste Stream   | 3.1E+00                   | 0.0E+00                      | 3.1E+0                         |
| RF-MT0535       | Un-named Waste Stream   | 6.3E-01                   | 0.0E+00                      | 6.3E-0                         |
| RF-TT0533       | Un-named Waste Stream   | 8.3E-01                   | 0.0E+00                      | 8.3E-0                         |
| RL-W284         | 201C Unknown form CH RCRA MTRU w/ met                                   | 4.2E-01                   | 0.0E+00                      | 4.2E-0                         |
| RL-W332         | 2345Z Unknown form CH St MTRU   | 1.9E+00                   | 0.0E+00                      | 1.9E+0                         |
| RL-W357         | KAPL Unknown form CH/r TRU  | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |
| RL-W366         | 202A Unknown form CH TRU  | 1.5E+00                   | 8.3E-01                      | 2.3E+0                         |
| RL-W382         | 2345Z Unknown form CH TRU   | 1.9E+01                   | 6.1E+01                      | 8.0E+0                         |
| RL-W391         | 308 Combustible unknown form CH TRU                                     | 4.2E-01                   | 0.0E+00                      | 4.2E-0                         |
| RL-W471         | 202A MTRU CH unknown forms S9000 Mixed RCRA w/ org, met, Hg             | 1.9E+00                   | 0.0E+00                      | 1.9E+0                         |
| RL-W472         | 202A MTRU CH unknown forms S9000 Mixed RCRA w/ met                      | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |
| RL-W556         | 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ org, met, Hg            | 4.2E-01                   | 0.0E+00                      | 4.2E-0                         |
| RL-W557         | 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ org, ign                | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |
| RL-W558         | 2345Z MTRU CH unknown forms S9000 Mixed<br>RCRA w/ org                  | 2.1E-01                   | 0.0E+00                      | 2.1E-0                         |

Table 33. Possible Future TRU Waste for WIPP – Continued

|                 | CH TRU Waste Streams  |                           |                              |                                |
|-----------------|---|---------------------------|------------------------------|--------------------------------|
| Waste Stream ID | Waste Stream Name   | Stored<br>Volumes<br>(m³) | Projected<br>Volumes<br>(m³) | Anticipated<br>Volumes<br>(m³) |
| RL-W561         | 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ met, Hg, cor                            | 2.1E-01                   | 0.0E+00                      | 2.1E-01                        |
| RL-W562         | 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ met, Hg                                 | 1.0E+00                   | 0.0E+00                      | 1.0E+00                        |
| RL-W609         | 324 MTRU CH unknown forms S9000 Mixed RCRA w/org, met, Hg                               | 2.1E-01                   | 0.0E+00                      | 2.1E-01                        |
| RL-W650         | 325 TRU CH unknown forms S9000 Non-mixed  | 2.1E-01                   | 0.0E+00                      | 2.1E-01                        |
| RL-W651         | 325 MTRU CH unknown forms S9000 Mixed RCRA w/org, met                                   | 1.0E+00                   | 0.0E+00                      | 1.0E+00                        |
| RL-W652         | 325 MTRU CH unknown forms S9000 Mixed RCRA w/org  | 3.8E+00                   | 0.0E+00                      | 3.8E+00                        |
| RL-W722         | MCGEE TRU CH unknown forms S9000 Non-mixed  | 2.1E-01                   | 0.0E+00                      | 2.1E-01                        |
| RL-W756         | PFP Residues - Mixed Oxides Wastes in POCs:<br>MTRU CH solidified inorganic S3150 Mixed | 0.0E+00                   | 2.9E+02                      | 2.9E+02                        |
| SP-T001         | Un-named Waste Stream   | 0.0E+00                   | 5.0E+01                      | 5.0E+01                        |
| SR-T001-WSB-1   | Unknown   | 0.0E+00                   | 4.3E+03                      | 4.3E+03                        |
| SR-W026-MFFF-1  | Unknown   | 0.0E+00                   | 2.6E+03                      | 2.6E+03                        |
| SR-W026-PDCF-1  | Unknown   | 0.0E+00                   | 1.8E+03                      | 1.8E+03                        |
| SR-W026-WSB-2   | Unknown   | 0.0E+00                   | 6.7E+02                      | 6.7E+02                        |
| SR-T001-WSB-3   | Unknown   | 0.0E+00                   | 1.4E+02                      | 1.4E+02                        |
| VN-CHT001       | Un-named Waste Stream   | 0.0E+00                   | 2.0E+01                      | 2.0E+01                        |
| WV-M007         | TRU General Waste   | 1.1E+01                   | 0.0E+00                      | 1.1E+01                        |
| WV-T004         | Fissile Material – Other  | 6.2E-01                   | 0.0E+00                      | 6.2E-01                        |
| WV-T020         | PPC/XC2 PPE and DAW   | 0.0E+00                   | 2.3E+02                      | 2.3E+02                        |
| WV-M008         | TRU Concrete  | 2.1E-01                   | 0.0E+00                      | 2.1E-01                        |
| WV-M010         | TRU Spent Absorbents  | 8.3E-01                   | 0.0E+00                      | 8.3E-01                        |
| WV-M013         | Sweeping Compound   | 1.9E+00                   | 0.0E+00                      | 1.9E+00                        |
| WV-T001         | Fissile Material –Solids  | 3.7E+01                   | 0.0E+00                      | 3.7E+01                        |
| WV-T006         | TRU General Waste   | 1.0E+01                   | 1.0E+01                      | 2.0E+01                        |
| WV-T009         | TRU General Laboratory Waste  | 1.0E+01                   | 2.1E+01                      | 3.1E+01                        |
| WV-T011         | TRU Glove Boxes   | 1.0E+01                   | 0.0E+00                      |                                |
| WV-T017         | Spent Filter Media  | 2.5E+00                   | 0.0E+00                      |                                |
| WV-T021         | RHWF Process  | 0.0E+00                   | 8.1E+01                      | 8.1E+01                        |
| WV-W024         | TRU Lead  | 1.9E+01                   | 0.0E+00                      |                                |
| TOTALS          |   | 1.1E+03                   | 1.1E+04                      | 1.2E+04                        |

Table 33. Possible Future TRU Waste For WIPP -- Continued

|                 | RH TRU Waste Streams                                     |                           |   |                                |
|-----------------|--|---------------------------|---|--------------------------------|
| Waste Stream ID | Waste Stream Name  | Stored<br>Volumes<br>(m³) | Projected<br>Volumes<br>(m <sup>3</sup> ) | Anticipated<br>Volumes<br>(m³) |
| IN-SBW-01A      | SBW Treatment Option 1 - Calcine Process - Calcine       | 0.0E+00                   | 1.1E+03                                   | 1.1E+03                        |
| IN-SBW-01B      | SBW Treatment Option 1 - Calcine Process - Grouted Scrub | 0.0E+00                   | 3.0E+01                                   | 3.0E+01                        |
| IN-TRA-BE-01    | TRA Beryllium Blocks                                     | 1.2E+01                   | 1.3E+01                                   | 2.4E+01                        |
| RL-W475         | 202A TRU CH combustible S5319 Non-mixed                  | 6.2E+00                   | 0.0E+00                                   | 6.2E+00                        |
| RL-W477         | 202A TRU RH heterogeneous S5420 Non-mixed                | 1.8E+00                   | 0.0E+00                                   | 1.8E+00                        |
| RL-W478         | 202A TRU RH heterogeneous S5440 Non-mixed                | 2.3E+01                   | 0.0E+00                                   | 2.3E+01                        |
| RL-W479         | 202A TRU RH heterogeneous S5900 Non-mixed                | 9.0E-01                   | 0.0E+00                                   | 9.0E-01                        |
| RL-W577         | 2345Z TRU RH unknown forms S9000 Non-mixed               | 2.7E+00                   | 0.0E+00                                   | 2.7E+00                        |
| RL-W578         | 2345Z TRU RH unknown forms U9999 Non-mixed               | 5.3E+00                   | 0.0E+00                                   | 5.3E+00                        |
| RL-W667         | 325 TRU RH unknown forms S9000 Non-mixed                 | 8.9E-01                   | 0.0E+00                                   | 8.9E-01                        |
| RL-W684         | 327 TRU RH heterogeneous S5420 Non-mixed                 | 9.0E-01                   | 0.0E+00                                   | 9.0E-01                        |
| VN-RHT001       | Un-named Waste Stream                                    | 0.0E+00                   | 1.2E+01                                   | 1.2E+01                        |
| WV-M005         | TRU Filters  | 6.0E+01                   | 4.6E+01                                   | 1.1E+02                        |
| WV-M015         | Chemical Process Cell General Waste                      | 6.0E+00                   | 0.0E+00                                   | 6.0E+00                        |
| WV-T014         | Chemical Process Cell Vessels                            | 1.1E+01                   | 0.0E+00                                   | 1.1E+01                        |
| WV-T016         | Chemical Process Cell Miscellaneous Equipment            | 8.5E+00                   | 0.0E+00                                   | 8.5E+00                        |
| WV-T018         | Head End Cell Debris                                     | 5.4E+01                   | 2.6E+01                                   | 8.0E+01                        |
| WV-T019         | FRS Pool Filters   | 0.0E+00                   | 2.1E+01                                   | 2.1E+01                        |
| TOTALS          |  | 1.9E+02                   | 1.2E+03                                   | 1.4E+03                        |

# 3.9 Possible Future Waste Isolation Pilot Plant Waste

Categories of waste that eventually may become acceptable for disposal at WIPP include the following:

- Unknown Potential future waste may come from waste streams currently declared "unknown." (see Table 33). These wastes have not been characterized adequately to determine the final waste form and/or other significant parameters. If these wastes are characterized and meet the WIPP Waste Acceptance Criteria (WAC) (DOE 2004a), they will be included in the WIPP inventory in the future.
- Defense determination pending Only one waste stream has been identified as requiring a defense determination. Babcock and Wilcox in Lynchburg, VA, currently has approximately 45 m³ (1,590 ft³) of TRU waste in on-site storage silos. Virtually all of the material was generated from the Light Water Reactor Extended Burn-Up Program. That program was responsible for sending test elements of reactor fuel to various hot cells, including the one at Lynchburg. The waste consists mostly of cellulosics, rubber, and lead-lined gloves.
- Newly identified TRU waste Brookhaven National Laboratory (BNL) has identified an existing legacy 17,500-lb concrete vault stored at the Hazardous Waste Management Facility as TRU waste based on recalculation of <sup>239</sup>Pu curie content. The vault holds five plutonium foils (TRU waste) and other non-TRU waste constituents including Brookhaven Linear Isotope Production (BLIP) waste, and cesium and cobalt sources embedded in concrete. The vault must now be managed as TRU waste.
- The Beryllium Block waste stream at INL includes beryllium blocks and outer shim control cylinders from the Advanced Test Reactor. The radionuclide concentrations are too great to be considered in this update, but may be considered in the future.

# 3.10 Emplacement Materials

The inventory of CPR materials used by WIPP Waste Handling Operations (WHO) to facilitate waste emplacement was estimated to support the PABC (Leigh et al. 2005a; Leigh et al. 2005b). This information was not used for the CRA-2004 PA but has been calculated as a best estimate based on current knowledge of the packaging expected to be used by the sites for shipment (Burns 2005). The TRAMPAC (DOE 2004b) allows certain container types to be transported in the TRUPACT-II. These are 55-gallon drums, 85-gallon drums, 100-gallon drums, SWB, and TDOPs. One standard large box container type (5 ft x 5 ft x 8 ft box) was also added as a possible future transportation container to these calculations (Burns 2005).

The WIPP was designed to receive both CH- and RH-TRU waste. CH-TRU waste emplaced in the WIPP is in seven-packs of 55-gallon drums and/or pipe overpack components (POCs), SWBs, and TDOPs. RH-TRU waste has not been shipped to the WIPP to date.

The WIPP WHO uses several materials to facilitate the emplacement of TRU waste, and magnesium oxide (MgO) is used as an engineered barrier. The amount of MgO emplaced is based on a safety factor and is subject to change based on the amount of CPR in the repository. The CPR, however, has been estimated for each payload configuration expected to be emplaced in the repository (Burns 2005). Plastic and cellulosic materials are used to emplace CH-TRU waste. The MgO is placed on top of the containers

and comes in a woven plastic bag called a "supersack." RH-TRU waste will be emplaced in boreholes in the salt. Currently, there is no CPR materials used for RH-TRU waste emplacement.

The materials used to emplace CH-TRU waste are:

- Polyethylene (PE) slip-sheets for the seven-packs of 55-gallon drums and/or POCs, four-packs of 85-gallon drums, three-packs of 100-gallon drums, and the MgO supersacks (plastics);
- Fiberboard slip-sheet for the SWB and TDOP (cellulosic material);
- Woven polypropylene supersacks containing MgO (plastic material/MgO);
- Cardboard stabilizers for the supersacks (cellulosic material); and
- Stretch wrap for the seven-packs (plastic material).

There is no rubber materials used for CH- or RH-TRU waste emplacement. For CH-TRU waste, the total mass of each of the emplacement materials (plastic, cellulosic, and MgO) was calculated as of the inventory date. The WWIS was modified in March 2005 to begin tracking the emplaced quantities of MgO, as well as the added emplacement materials (e.g., slip sheets and shrink wrap). The relevant information is provided in Table 34.

Table 34. Estimates of Materials Used to Facilitate Emplacement of Waste in the WIPP

| CPR Component | From Supersacks<br>(kg) | From Emplacement<br>Packs (kg) | Total Emplacement<br>Materials (kg) |
|---------------|-------------------------|--------------------------------|-------------------------------------|
| Cellulose     | 1.17 x 10 <sup>5</sup>  | 8.98 x 10 <sup>4</sup>         | $2.07 \times 10^5$                  |
| Plastic       | $3.85 \times 10^5$      | $1.10 \times 10^6$             | $1.48 \times 10^6$                  |
| Rubber        | 0                       | 0                              | 0                                   |

Data Source: Burns 2005

# **REFERENCES**

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# **EXECUTIVE SUMMARY**

The U.S. Department of Energy's (DOE's) Waste Isolation Pilot Plant (WIPP) opened on March 26, 1999, becoming the nation's first deep geologic repository for the permanent disposal of defense-generated transuranic (TRU) waste. This waste is currently retrievably stored at 27 sites across the country (see Figure 1, Section 1.0). From the WIPP's opening through the inventory date (September 30, 2002), 1,255 shipments of TRU waste were safely characterized, transported, and disposed in the WIPP.

DOE complex-wide TRU waste inventory information has been collected, analyzed, and published in several reports. The WIPP Transuranic Waste Baseline Inventory Report (WTWBIR), Revision 0, published in June 1994 (DOE 1994), was the first attempt made by the DOE complex to report all of its TRU waste at the waste-stream level. The TRU waste data reported in Revision 0 were considered preliminary until the DOE TRU waste sites completed quality checks of the data. Data changes resulting from the quality checks were contained in the WTWBIR, Revision 1, (DOE 1995a). Transuranic Waste Baseline Inventory Report (TWBIR) Revisions 2 and 3 (DOE 1995b and DOE 1996a) were published in 1995 and 1996 to include WIPP and non-WIPP wastes and other additional waste stream characteristic information. Data from Revision 2 and 3 supplemental information provided the inventory that Sandia National Laboratories (SNL) used to perform the necessary calculations for the Performance Assessment (PA) for the initial certification of the WIPP [Compliance Certification Application (CCA)] (DOE 1996b). To effectively keep track of the changes in the TRU waste inventory, site inventory information will be monitored for changes.

The WIPP Land Withdrawal Act (LWA) (Public Law No. 102-579, 110 Stat.2422, [1992], as amended by 104-201 [1996]) required that the U.S. Environmental Protection Agency (EPA) certify the WIPP site every five years after the first receipt of TRU waste. The first recertification application (the Compliance Recertification Application, referred to hereafter as the CRA-2004) was submitted to the EPA on March 26, 2004. The CRA-2004 included the inventory data collected in 2003 to support the waste estimate that would fill the repository for the Performance Assessment (PA). Subsequently, this document is a revision of Attachment F found in Appendix DATA of the CRA-2004 (DOE 1996b) and the Performance Assessment Baseline Calculation (PABC) (Leigh et al. 2005a; Leigh et al. 2005b) and will be referred to as the Transuranic Waste Baseline Inventory Report – 2004 (TWBIR-2004) throughout this document. The TWBIR-2004 primarily focuses on inventory information needed for the PA for the CRA-2004 and PABC and has been revised to include changes to the Hanford and Idaho National Engineering and Environmental Laboratory (INEEL), now the Idaho National Laboratory (INL) data as described in more detail below. The information in this report summarizes the DOE's TRU waste inventory, projections, and characteristics; reports emplaced waste; and is an update to the previously published TRU waste inventory that was used for the CRA-2004 PA. This update is also known as the PABC inventory. The TWBIR-2004 includes estimates for: 1) waste volumes (stored, projected, and emplaced); 2) radionuclides; 3) the 12 waste material parameters; 4) complexing agents; 5) oxyanions; 6) cement; 7) pyrochemical salts; and 8) the materials used to emplace the waste in the WIPP.

The primary differences between previous inventory data submittals (TWBIR Revisions 2 and 3) and the TWBIR-2004 are:

• This report accounts for the INEEL Advanced Mixed Waste Treatment Facility process by which 55-gallon drums are compacted and placed into 100-gallon drums, and disregards those calculations related to the proposed waste incineration process that was described in the TWBIR

Revision 3 (DOE 1996a). The Advanced Mixed Waste Treatment Facility is planning to do supercompaction rather than incineration.

- In addition, INEEL inventory has been revised to include buried waste identified for WIPP shipment that was originally reported in waste stream IN-Z001. This waste has been reported under four waste stream designations: IN-ICP-002, IN-ICP-003, IN-ICP-004, and IN-ICP-005. IN-Z001 still identifies the unknown portion of the waste stream.
- This report includes approximately 8,400 m<sup>3</sup> (296,688 ft<sup>3</sup>) of stored Hanford tank waste that was added to the inventory in December 2002.
- This report accounts for the site-requested deletion of several waste streams from Hanford Richland Operations inventory after the original CRA-2004 submittal.
- This report also addresses the waste that has been emplaced since the WIPP opened in 1999.

Finally, this report includes updates to site TRU Waste Baseline Inventory Waste Profiles (Waste Profiles) that were reported in TWBIR Revision 2 (DOE 1995b). The TRU waste sites provided updated Waste Profiles, which contain parameters that are important to the PA. The updated Waste Profiles for non-WIPP, WIPP, and emplaced waste streams are given in Appendices I, J, and K, respectively. The information contained in these profiles is considered the best estimate as of the inventory date, September 30, 2002, because more TRU waste characterization data are now available. The TRU Waste Baseline Inventory Waste Profile forms reflect the data as reported by the TRU waste sites. Some information that the sites have provided may have been changed to accommodate assumptions that are used in PA (for example, expansion of reported waste volumes for waste streams containing over-packed containers). In addition, the radionuclides have been decayed to a common time frame. References to the methodologies used for these adjustments are provided by Electronic Record Management System (ERMS) numbers in Appendix M of this document.

A comprehensive reference to the TWBIR-2004, entitled the *Transuranic Waste Inventory Update Report 2003*, *Computational Methodology* (LANL 2003), provides descriptions of the computations used to produce the inventory information that was used by SNL in the CRA-2004 and the PABC. Correction methodologies were used to analyze data provided by the sites, to correct inconsistencies, and to estimate waste material parameter densities and radionuclide activities where these data were not provided.

The following tables summarize the main aspects from the body of the text of the *Transuranic Waste Baseline Inventory Report-2004:* 

- Table ES-1. WIPP Contact-Handled TRU (CH-TRU) Waste Material Parameter Disposal Inventory
- Table ES-2. WIPP Remote-Handled TRU (RH-TRU) Waste Material Parameter Disposal Inventory
- Table ES-3. WIPP CH-TRU Waste Anticipated Inventory by Site
- Table ES-4. WIPP RH-TRU Waste Anticipated Inventory by Site
- Table ES-5. WIPP Summary Radionuclide Inventory

Table ES-1. WIPP CH-TRU Waste Material Parameter Disposal Inventory

| Waste Material Parameters    | Average Density (Kg/m3) |
|------------------------------|-------------------------|
| Iron-Base Metal/Alloys       | 1.1E+02                 |
| Aluminum-Base Metal/Alloys   | 1.4E+01                 |
| Other Metal/Alloys           | 3.2E+01                 |
| Other Inorganic Materials    | 4.0E+01                 |
| Cellulosics                  | 6.0E+01                 |
| Rubber                       | 1.3E+01                 |
| Plastics                     | 4.3E+01                 |
| Solidified, Inorganic Matrix | 1.1E+02                 |
| Cement (Solidified)          | 3.9E+01                 |
| Vitrified                    | 5.8E+00                 |
| Solidified, Organic Matrix   | 3.3E+01                 |
| Soils                        | 1.1E+02                 |
| Container Materials          |                         |
| Steel                        | 1.7E+02                 |
| Plastic                      | 1.7E+01                 |
| Lead                         | 1.3E-02                 |

Table ES-2. WIPP RH-TRU Waste Material Parameter Disposal Inventory

| Waste Material Parameters    | Average Density (Kg/m3) |
|------------------------------|-------------------------|
| Iron-Base Metal/Alloys       | 5.9E+01                 |
| Aluminum-Base Metal/Alloys   | 5.0E+00                 |
| Other Metal/Alloys           | 5.7E+01                 |
| Other Inorganic Materials    | 1.6E+01                 |
| Cellulosics                  | 9.3E+00                 |
| Rubber                       | 6.7E+00                 |
| Plastics                     | 8.0E+00                 |
| Solidified, Inorganic Matrix | 6.2E+01                 |
| Cement (Solidified)          | 1.9E+00                 |
| Vitrified                    | 1.2E-01                 |
| Solidified, Organic Matrix   | 8.3E-01                 |
| Soils                        | 5.0E+01                 |
| Container Materials          |                         |
| Steel                        | 5.4E+02                 |
| Plastic                      | 3.1E+00                 |
| Lead                         | 4.2E+02                 |

Table ES-3. WIPP CH-TRU Waste Anticipated Inventory By Site

| Storage/Generator Site                                    | Stored<br>Volumes<br>(Cubic<br>Meters) | Projected<br>Volumes<br>(Cubic<br>Meters) | Anticipated<br>Volumes<br>(Cubic<br>Meters) |
|---|--|---|---|
| Argonne National Laboratory - East                        | 1.1E+02                                | 8.0E+01                                   | 1.9E+02                                     |
| Argonne National Laboratory - West                        | 6.0E+00                                | 3.8E+01                                   | 4.4E+01                                     |
| Battelle Columbus Laboratories                            | 5.2E+00                                | 0.0E+00                                   | 5.2E+00                                     |
| Bettis Atomic Power Laboratory                            | 1.9E+01                                | 0.0E+00                                   | 1.9E+01                                     |
| Energy Technology Engineering Center                      | 2.3E+00                                | 0.0E+00                                   | 2.3E+00                                     |
| Hanford (Richland) Site                                   | 1.3E+04                                | 5.5E+03                                   | 1.8E+04                                     |
| Hanford (River Protection) Site                           | 3.9E+03                                | 0.0E+00                                   | 3.9E+03                                     |
| Idaho National Engineering and Environmental Laboratory   | 6.1E+04                                | 1.8E+04                                   | 7.8E+04                                     |
| Knolls Atomic Power Laboratory - Nuclear<br>Fuel Services | 5.5E+01                                | 1.7E+02                                   | 2.3E+02                                     |
| Lawrence Livermore National Laboratory                    | 3.5E+02                                | 2.1E+03                                   | 2.4E+03                                     |
| Los Alamos National Laboratory                            | 1.2E+04                                | 3.3E+03                                   | 1.5E+04                                     |
| Nevada Test Site  | 6.2E+02                                | 4.6E+02                                   | 1.1E+03                                     |
| Oak Ridge National Laboratory                             | 0.0E+00                                | 4.5E+02                                   | 4.5E+02                                     |
| Paducah Gaseous Diffusion Plant                           | 5.7E+00                                | 5.7E+00                                   | 1.1E+01                                     |
| Rocky Flats Environmental Technology Site                 | 5.4E+03                                | 2.8E+03                                   | 8.1E+03                                     |
| Sandia National Laboratories - Albuquerque                | 2.4E+01                                | 0.0E+00                                   | 2.4E+01                                     |
| Savannah River Site                                       | 1.3E+04                                | 2.4E+03                                   | 1.5E+04                                     |
| U.S. Army Material Command                                | 2.5E+00                                | 0.0E+00                                   | 2.5E+00                                     |
| University of Missouri Research Reactor                   | 1.5E+00                                | 0.0E+00                                   | 1.5E+00                                     |
| Totals  | 1.1E+05                                | 3.5E+04                                   | 1.4E+05                                     |
| Emplaced Volume   |  |   |   |
| Waste Isolation Pilot Plant                               | 7.7E+03                                |   | 7.7E+03                                     |
| Grand Totals  | 1.2E+05                                | 3.5E+04                                   | 1.5E+05                                     |

Table ES-4. WIPP RH-TRU Waste Anticipated Inventory By Site

| Storage/Generator Site                                     | Stored<br>Volumes<br>(Cubic<br>Meters) | Projected<br>Volumes<br>(Cubic<br>Meters) | Anticipated<br>Volumes<br>(Cubic<br>Meters) |
|--|--|---|---|
| Argonne National Laboratory - East                         | 1.5E+01                                | 1.0E+02                                   | 1.2E+02                                     |
| Argonne National Laboratory - West                         | 2.4E+01                                | 6.9E+01                                   | 9.3E+01                                     |
| Battelle Columbus Laboratories                             | 4.4E+01                                | 1.8E+00                                   | 4.6E+01                                     |
| Bettis Atomic Power Laboratory                             | 2.0E+00                                | 0.0E+00                                   | 2.0E+00                                     |
| Energy Technology Engineering Center                       | 5.0E+00                                | 0.0E+00                                   | 5.0E+00                                     |
| Hanford (Richland) Site                                    | 3.8E+02                                | 1.1E+03                                   | 1.5E+03                                     |
| Hanford (River Protection) Site                            | 4.5E+03                                | 0.0E+00                                   | 4.5E+03                                     |
| Idaho National Engineering and<br>Environmental Laboratory | 2.2E+02                                | 0.0E+00                                   | 2.2E+02                                     |
| Knolls Atomic Power Laboratory -<br>Schenectady            | 0.0E+00                                | 1.4E+02                                   | 1.4E+02                                     |
| Los Alamos National Laboratory                             | 1.3E+02                                | 0.0E+00                                   | 1.3E+02                                     |
| Oak Ridge National Laboratory                              | 0.0E+00                                | 6.6E+02                                   | 6.6E+02                                     |
| Sandia National Laboratories - Albuquerque                 | 4.6E+00                                | 0.0E+00                                   | 4.6E+00                                     |
| Savannah River Site  | 0.0E+00                                | 2.3E+01                                   | 2.3E+01                                     |
| Totals   | 5.3E+03                                | 2.1E+03                                   | 7.4E+03                                     |

Table ES-5. WIPP Summary Radionuclide Inventory 1,2

| Nuclide | CH-TRU Waste (Ci/m³) | RH-TRU Waste (Ci/m³) |
|---------|----------------------|----------------------|
| Am-241  | 2.8E+00              | 2.0E+00              |
| Ba-137m | 4.1E-02              | 5.6E+01              |
| Cm-244  | 3.7E-02              | 1.5E-01              |
| Co-60   | 5.8E-06              | 2.6E-01              |
| Cs-137  | 4.4E-02              | 6.0E+01              |
| Eu-152  | 1.1E-05              | 3.3E-01              |
| Pu-238  | 8.6E+00              | 5.4E-01              |
| Pu-239  | 3.4E+00              | 7.4E-01              |
| Pu-240  | 5.6E-01              | 2.2E-01              |
| Pu-241  | 1.2E+01              | 1.8E+01              |
| Sr-90   | 3.3E-01              | 4.6E+01              |
| Y-90    | 3.3E-01              | 4.5E+01              |

<sup>&</sup>lt;sup>1</sup> Summary shows the ten radionuclides with the highest concentration in curies per cubic meter for both CH-TRU and RH-TRU waste. The list includes twelve radionuclides because the ten radionuclides with the highest concentration are different for CH-TRU and RH-TRU waste.

<sup>&</sup>lt;sup>2</sup> Decayed through December 31, 2001.

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### ACRONYMS AND ABBREVIATIONS

**AE** Argonne National Laboratory – East (site identifier)

AK Acceptable Knowledge

**AMWTF(P)** Advanced Mixed Waste Treatment Facility (Project)

ANL-E Argonne National Laboratory East
ANL-W Argonne National Laboratory West
AL Ames Laboratory (site identifier)

AM ARCO Medical Products Company (site identifier)
AW Argonne National Laboratory - West (site identifier)
BC Battelle Columbus Laboratory (site identifier)

BAPL Bettis Atomic Power Laboratory
BCL Battelle Columbus Laboratories
BIR Baseline Inventory Report

BL Babcock and Wilcox-Lynchburg (site identifier)

BLIP Brookhaven Linear Isotope Production BNL Brookhaven National Laboratory

BT Bettis Atomic Power Laboratory (site identifier)

C&C Agreement Agreement for Consultation and Cooperation between the Department of Energy

and the State of New Mexico on the Waste Isolation Pilot Plant

CAO Carlsbad Area Office CBFO Carlsbad Field Office

CCA Compliance Certification Application
CCP Central Characterization Project
CFR Code of Federal Regulations

CH Contact-Handled CNS ChemNuclear Systems

CPR Cellulosic, Plastic, and Rubber Materials CRA-2004 Compliance Recertification Application

CY Calendar Year

**D&D** Decontamination and Decommissioning

DOE U.S. Department of Energy

DOE-ORO U.S. Department of Energy Oak Ridge Office

**DOR** Direct Oxide Reduction

EDTA ethylenediaminetetraacetic acid

**EPA** U.S. Environmental Protection Agency

**ER** Environmental restoration or electro-refining (salts)

**ERMS** Electronic Records Management System

ET Energy Technology Engineering Center (site identifier)

ETEC Energy Technology Engineering Center FFCAct Federal Facilities Compliance Act FM Framatome (Richland) (site identifier)

FRP Fiberglass-reinforced plywood
HDPE High density polyethylene
HEPA High Efficiency Particulate Air
ICP Idaho Completion Project
IDB Integrated Database
IDC Item Description Code

IN Idaho National Laboratory (site identifier)

INL Idaho National Laboratory

IT Inhalation Toxicology Research Institute (now known as Lovelace Respiratory

Research Institute, LRRI) (site identifier)

ITRI Inhalation Toxicology Research Institute (now known as Lovelace Respiratory

**Research Institute, LRRI)** 

JASPER Joint Actinide Shock Physics Experimental Research

KA Knolls Atomic Power Laboratory-Schenectady (site identifier)

**KAPL** Knolls Atomic Power Laboratory

KN Knolls Atomic Power Laboratory – Nuclear Fuels Service (site identifier)

LA Los Alamos National Laboratory (site identifier)

LANL Los Alamos National Laboratory

LANL-CO Los Alamos National Laboratory – Carlsbad Operations
Lawrence Berkeley National Laboratory (site identifier)

LBNL Lawrence Berkeley National Laboratory

LECO Trade name for manufacturer of crucibles, furnaces and analytical

instrumentation

LL Lawrence Livermore National Laboratory (site identifier)

LLNL Lawrence Livermore National Laboratory

LLW Low-level radioactive waste

LRRI Lovelace Respiratory Research Institute

LWA Land Withdrawal Act

MC U.S. Army Material Command (site identifier)

MgO Magnesium Oxide

mrem Millirem

MSE Molten Salt Extraction

MT Mixed-TRU

MU University of Missouri Research Reactor (site identifier)

**MURR** University of Missouri Research Reactor

NT Nevada Test Site (site identifier)

NTS Nevada Test Site

NWMP Nuclear Waste Management Program

OP Overpack

OR Oak Ridge National Laboratory (site identifier)
ORIGEN2 Oak Ridge Isotope Generation and Depletion Code

ORNL Oak Ridge National Laboratory

OSR Offsite Source Recovery
ORP Office of River Protection
PA Performance Assessment

PA Paducah Gaseous Diffusion Plant (site identifier, in waste profiles only)

2

**PABC** Performance Assessment Baseline Calculations

PCB Polychlorinated Biphenyls

PE Polvethylene

PGDP Paducah Gaseous Diffusion Plant

POC Pipe Overpack Component PX Pantex Plant (site identifier)

OA Ouality Assurance

**RCRA** Resource Conservation and Recovery Act

**RF** Rocky Flats Environmental Technology (site identifier)

**RFETS** Rocky Flats Environmental Technology Site

RH Remote-Handled

RHWF Remote-handled Waste Facility

RL Hanford (Richland Operations Office) (site identifier)
RP Hanford (Office of River Protection) (site identifier)

RTR Real-time radiography

SA Sandia National Laboratories (site identifier)

**SLB** Standard large boxes

**SNL** Sandia National Laboratories

SP Separations Process Research Unit (site identifier)

SPRU Separations Process Research Unit SQAP Software Quality Assurance Plan SR Savannah River Site (site identifier)

SRS Savannah River Site

**STTP** Source Term Test Program

SWB Standard Waste Box
TB Teledyne-Brown
TDOP Ten Drum Overpack
TOC Total Organic Carbon

TRAMPAC Transuranic Waste Authorized Methods for Payload Control

TRU Transuranic

TRUCON TRU Waste Content Codes

TRUPACT II Transuranic Package Transporter – II

TWBID Transuranic Waste Baseline Inventory Database, Rev. 2.1

TWBIR Transuranic Waste Baseline Inventory Report

**USAMC** U.S. Army Material Command

VN General Electric Vallecitos Nuclear Center (site identifier)

WAC Waste Acceptance Criteria

WAP Waste Analysis Plan

WHO Waste Handling Operations
WIPP Waste Isolation Pilot Plant

WM Waste Material WMC Waste Matrix Code

WMP Waste Material Parameter
WP WIPP repository (site identifier)

WTWBIR WIPP Transuranic Waste Baseline Inventory Report WV West Valley Demonstration Project (site identifier)

WVDP West Valley Demonstration Project
WWIS WIPP Waste Information System

# **ABBREVIATED TITLES**

TWBIR Revision 2 Transuranic Waste Baseline Inventory Report, Revision 2 (DOE

1995b)

TWBID Revision 2.1 Transuranic Waste Baseline Inventory Database (LANL 2005)
TWBIR Revision 3 Transuranic Waste Baseline Inventory Report, Revision 3 (DOE

1996a)

TWBIR-2004 Revision 0 Transuranic Waste Baseline Inventory Report - 2004, Revision 0

(this document)

Computational Methodology Transuranic Waste Inventory Update Report – 2003 Computational

methodology (LANL 2003b)

# APPENDIX A PYROCHEMICAL SALTS

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# A-1.0 PYROCHEMICAL SALTS

A list of waste streams that contain pyrochemical salts was requested for the Performance Assessment Baseline Calculations (PABC) (Leigh et al. 2005a; Leigh et. al. 2005b) in support of the Compliance Recertification Application (CRA) (Giambalvo 2002). These waste streams were reported in a letter (Crawford 2003). Pyrochemical salt-containing waste streams were reported by LANL, LLNL, and RFETS and are shown in Table A-1.

**Table A-1. Waste Streams Containing Pyrochemical Salts** 

| Generator Site                            | Waste Stream Identification |
|---|-----------------------------|
| Los Alamos National Laboratory            | LA-TA-03-24                 |
|   | LA-TA-21-12                 |
|   | LA-TA-50-15                 |
|   | LA-TA-55-39                 |
|   | LA-TA-55-53                 |
| Lawrence Livermore National Laboratory    | LL-T004                     |
| Rocky Flats Environmental Technology Site | RF-TT0360                   |
|   | RF-TT0368                   |
|   | RF-TT411R                   |
|   | RF-TT429R                   |
|   | RF-TT433X                   |
|   | RF-TT436R                   |
|   | RF-TT454X                   |
| Waste Isolation Pilot Plant               | WP-RF005.01 <sup>1</sup>    |
|   | WP-RF005.02 <sup>1</sup>    |
|   | WP-RF009.01 <sup>1</sup>    |

<sup>&</sup>lt;sup>1</sup> These are waste streams from RFETS that are already emplaced in WIPP.

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### REFERENCES

Crawford. 2003. Letter to Dr. Leigh, regarding pyrochemical salts for the 2003 Update Report August 20, 2003, Carlsbad, NM. ERMS# 530237.

Giambalvo, E. 2002. *Sandia's WIPP Inventory Data Needs for Performance Assessment*, Letter to J. Harvill, April 22, 2002, Sandia National Laboratories, Carlsbad, NM. ERMS # 522011.

Leigh, C., J.F. Kanney, L.H. Brush, J.W. Garner, G.R Kirkes, T.S. Lowry, M.B. Nemer, J.S. Stein, E.D. Vugrin, S. Wagner, and T.B. Kirchner 2005a. 2004 *Compliance Recertification Application Performance Assessment Baseline Calculation*, Revision 0, Sandia National Laboratories, Carlsbad, NM. ERMS# 541521.

Leigh, C., J. Trone, and B. Fox 2005b. *TRU Waste Inventory for the 2004 Compliance Recertification Application Performance Assessment Baseline Calculation*, Sandia National Laboratories, Carlsbad, NM. ERMS# 541118.

# APPENDIX B

COMPARISON OF TWBIR – 2004 TO TWBIR REVISION 2 INFORMATION

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### **B-1.0 VOLUME ESTIMATES**

# **B-1.1 Waste Inventory Volume Comparison**

This explanation applies to Tables B.1-1 through B.1-3. Tables B.1-1 and B.1-2 contain the volume comparisons for contact-handled (CH-) and remote-handled (RH-) TRU waste, respectively. Table B.1-3 contains the volume comparisons for the total CH-TRU, total RH-TRU, and emplaced waste. The current volume estimates for the Transuranic Waste Baseline Inventory Report - 2004 (TWBIR - 2004) are stored in the Transuranic Waste Baseline Inventory Database Revision 2.1 (TWBID Revision 2.1) (LANL 2005). The previous volume estimates are from the Transuranic Waste Baseline Inventory Report, Revision 2 (TWBIR Revision 2) (DOE 1995). The site name is given in the first column of Table B.1-1. Volume estimates for the TWBIR - 2004, the TWBIR Revision 2 (DOE 1995), and for the difference between the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) stored volumes for each site are given in the next three columns, respectively (columns 2, 3, and 4). Volume estimates for the TWBIR -2004, TWBIR Revision 2, and for the difference between the TWBIR - 2004 and TWBIR Revision 2 projected volumes for each site are given in columns 5, 6, and 7, respectively. Finally, volume estimates for the TWBIR - 2004, TWBIR Revision 2, and for the difference between the TWBIR - 2004 and TWBIR Revision 2 anticipated volumes for each site are given in the last three columns, respectively (columns 8, 9, and 10). The total volumes for columns 2-10 are then given near the bottom of Table B.1-1.

Table B.1-2 is similar to Table B.1-1 except that it contains the comparison of stored (columns 2–4), projected (columns 5–7), and anticipated (columns 8–10) RH-TRU waste volumes by site (column 1) and gives the total volumes of RH-TRU waste. There was no RH-TRU waste emplaced as of the inventory date, September 30, 2002.

The TWBIR Revision 2 (DOE 1995) reported total CH and RH-TRU waste volume was 1.4E+05 m<sup>3</sup>. This is an increase of 2.0E+04 m<sup>3</sup> total volume of TRU waste estimated by TWBIR - 2004. The TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) inventory information in Tables B.1-1 through B.1-3 were analyzed for differences in stored, projected, and anticipated volumes. The CH-TRU waste volume information will be discussed first (Section B-1.3), followed by a discussion of the RH-TRU waste volume information (Section B-1.5).

Table B.1-3 has the same column structure as Tables B.1-1 and B.1-2, but contains the total volumes for the comparison of stored, projected, and anticipated CH- and RH-TRU waste volumes and provides the total waste volume. The emplaced CH-TRU waste volume, 7.7E+03 m<sup>3</sup>, is added to the anticipated volumes for a current total TRU waste volume of 1.6E+05 m<sup>3</sup>.

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Table B.1-1. Comparison of Stored, Projected, and Anticipated CH-TRU Waste Volumes Between the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) (m<sup>3</sup>)<sup>1</sup>

| TRU Waste Site  | TWBIR -<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | Difference in Stored <sup>2</sup> | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | Difference in<br>Projected <sup>2</sup> | TWBIR -<br>2004<br>Anticipated | TWBIR<br>Rev. 2<br>Anticipated | Difference in Anticipated <sup>2</sup> |
|---|---------------------------|---------------------------|-----------------------------------|------------------------------|------------------------------|---|--------------------------------|--------------------------------|--|
| Ames Laboratory-Iowa St. University                       | 0.0E+00                   | 0.0E+00                   | 0.0E+00                           | 0.0E+00                      | 4.2E-01                      | -4.2E-01                                | 0.0E+00                        | 4.2E-01                        | -4.2E-01                               |
| Argonne National Laboratory - East                        | 1.1E+02                   | 1.1E+01                   | 1.0E+02                           | 8.0E+01                      | 1.3E+02                      | -5.1E+01                                | 1.9E+02                        | 1.4E+02                        | 5.0E+01                                |
| Argonne National Laboratory - West                        | 6.0E+00                   | 6.5E+00                   | -5.0E-01                          | 3.8E+01                      | 7.4E+02                      | -7.0E+02                                | 4.4E+01                        | 7.5E+02                        | -7.1E+02                               |
| Battelle Columbus Laboratories                            | 5.2E+00                   | 0.0E+00                   | 5.2E+00                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 5.2E+00                        | 0.0E+00                        | 5.2E+00                                |
| Bettis Atomic Power Laboratory                            | 1.9E+01                   | 0.0E+00                   | 1.9E+01                           | 0.0E+00                      | 1.2E+02                      | -1.2E+02                                | 1.9E+01                        | 1.2E+02                        | -1.0E+02                               |
| Energy Technology Engineering Center                      | 2.3E+00                   | 1.7E+00                   | 6.0E-01                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 2.3E+00                        | 1.7E+00                        | 6.0E-01                                |
| Hanford (Richland-RL)                                     | 1.3E+04                   | 1.2E+04                   | 1.0E+03                           | 5.5E+03                      | 3.3E+04                      | -2.7E+04                                | 1.8E+04                        | 4.6E+04                        | -2.8E+04                               |
| Hanford (River Protection-RP)                             | 3.9E+03                   | 0.0E+00                   | 3.9E+03                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 3.9E+03                        | 0.0E+00                        | 3.9E+03                                |
| Idaho National Laboratory                                 | 6.1E+04                   | 2.9E+04                   | 3.2E+04                           | 1.8E+04                      | 0.0E+00                      | 1.8E+04                                 | 7.8E+04                        | 2.9E+04                        | 4.9E+04                                |
| Knolls Atomic Power Laboratory - Nuclear<br>Fuel Services | 5.5E+01                   | 0.0E+00                   | 5.5E+01                           | 1.7E+02                      | 0.0E+00                      | 1.7E+02                                 | 2.3E+02                        | 0.0E+00                        | 2.3E+02                                |
| Lawrence Livermore National Laboratory                    | 3.5E+02                   | 2.3E+02                   | 1.2E+02                           | 2.1E+03                      | 7.1E+02                      | 1.4E+03                                 | 2.4E+03                        | 9.4E+02                        | 1.5E+03                                |
| Los Alamos National Laboratory                            | 1.2E+04                   | 1.1E+04                   | 1.0E+03                           | 3.3E+03                      | 7.4E+03                      | -4.1E+03                                | 1.5E+04                        | 1.8E+04                        | -3.1E+03                               |
| Nevada Test Site  | 6.2E+02                   | 6.2E+02                   | 0.0E+00                           | 4.6E+02                      | 9.0E+00                      | 4.5E+02                                 | 1.1E+03                        | 6.3E+02                        | 4.7E+02                                |
| Oak Ridge National Laboratory                             | 0.0E+00                   | 1.3E+03                   | -1.3E+03                          | 4.5E+02                      | 2.6E+02                      | 1.9E+02                                 | 4.5E+02                        | 1.6E+03                        | -1.2E+03                               |
| Paducah Gaseous Diffusion Plant                           | 5.7E+00                   | 0.0E+00                   | 5.7E+00                           | 5.7E+00                      | 1.9E+00                      | 3.8E+00                                 | 1.1E+01                        | 1.9E+00                        | 9.1E+00                                |
| Pantex  | 0.0E+00                   | 6.2E-01                   | -6.2E-01                          | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 0.0E+00                        | 6.2E-01                        | -6.2E-01                               |
| Rocky Flats Environmental Technology Site                 | 5.4E+03                   | 7.1E+02                   | 4.6E+03                           | 2.8E+03                      | 4.4E+03                      | -1.7E+03                                | 8.1E+03                        | 5.1E+03                        | 3.0E+03                                |
| Sandia National Laboratories - Albuquerque                | 2.4E+01                   | 6.7E+00                   | 1.7E+01                           | 0.0E+00                      | 7.5E+00                      | -7.5E+00                                | 2.4E+01                        | 1.4E+01                        | 1.0E+01                                |
| Savannah River Site/Mound                                 | 1.3E+04                   | 2.9E+03                   | 1.0E+04                           | 2.4E+03                      | 6.8E+03                      | -4.4E+03                                | 1.5E+04                        | 9.6E+03                        | 5.4E+03                                |
| Teledyne Brown  | 0.0E+00                   | 2.1E-01                   | -2.1E-01                          | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 0.0E+00                        | 2.1E-01                        | -2.1E-01                               |
| U.S. Army Material Command                                | 2.5E+00                   | 2.5E+00                   | 0.0E+00                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 2.5E+00                        | 2.5E+00                        | 0.0E+00                                |
| University of Missouri Research Reactor                   | 1.5E+00                   | 2.1E-01                   | 1.3E+00                           | 0.0E+00                      | 8.3E-01                      | -8.3E-01                                | 1.5E+00                        | 1.0E+00                        | 5.0E-01                                |
| Totals <sup>3</sup>                                       | 1.1E+05                   | 5.8E+04                   | 5.2E+04                           | 3.5E+04                      | 5.4E+04                      | -1.9E+04                                | 1.4E+05                        | 1.1E+05                        | 3.1E+04                                |

See page 1 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

B Does not account for emplaced waste.

Table B.1-2. Comparison of Stored, Projected, and Anticipated RH-TRU Waste Volumes Between the TWBIR - 2004 and TWBIR Revision 2 (m³)¹

| Storage/Generator Site                   | TWBIR -<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | Difference in Stored <sup>2</sup> | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | Difference in Projected <sup>2</sup> | TWBIR -<br>2004<br>Anticipated | TWBIR<br>Rev. 2<br>Anticipated | Difference in<br>Anticipated <sup>2</sup> |
|--|---------------------------|---------------------------|-----------------------------------|------------------------------|------------------------------|--------------------------------------|--------------------------------|--------------------------------|---|
| Argonne National Laboratory - East       | 1.5E+01                   | 0.0E+00                   | 1.5E+01                           | 1.0E+02                      | 0.0E+00                      | 1.0E+02                              | 1.2E+02                        | 0.0E+00                        | 1.2E+02                                   |
| Argonne National Laboratory – West       | 2.4E+01                   | 1.9E+01                   | 5.0E+00                           | 6.9E+01                      | 1.3E+03                      | -1.2E+03                             | 9.3E+01                        | 1.3E+03                        | -1.2E+03                                  |
| Battelle Columbus Laboratories           | 4.4E+01                   | 5.8E+02                   | -5.4E+02                          | 1.8E+00                      | 0.0E+00                      | 1.8E+00                              | 4.6E+01                        | 5.8E+02                        | -5.3E+02                                  |
| Bettis Atomic Power Laboratory           | 2.0E+00                   | 0.0E+00                   | 2.0E+00                           | 0.0E+00                      | 6.7E+00                      | -6.7E+00                             | 2.0E+00                        | 6.7E+00                        | -4.7E+00                                  |
| Energy Technology Engineering Center     | 5.0E+00                   | 8.9E-01                   | 4.1E+00                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                              | 5.0E+00                        | 8.9E-01                        | 4.1E+00                                   |
| Hanford (Richland) Site                  | 3.8E+02                   | 2.0E+02                   | 1.8E+02                           | 1.1E+03                      | 2.2E+04                      | -2.1E+04                             | 1.5E+03                        | 2.2E+04                        | -2.1E+04                                  |
| Hanford (River Protection) Site          | 4.5E+03                   | 0.0E+00                   | 4.5E+03                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                              | 4.5E+03                        | 0.0E+00                        | 4.5E+03                                   |
| Idaho National Laboratory                | 2.2E+02                   | 2.2E+02                   | 0.0E+00                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                              | 2.2E+02                        | 2.2E+02                        | 0.0E+00                                   |
| Knolls Atomic Power Laboratory-NY        | 0.0E+00                   | 0.0E+00                   | 0.0E+00                           | 1.4E+02                      | 0.0E+00                      | 1.4E+02                              | 1.4E+02                        | 0.0E+00                        | 1.4E+02                                   |
| Los Alamos National Laboratory           | 1.3E+02                   | 9.4E+01                   | 3.6E+01                           | 0.0E+00                      | 9.9E+01                      | -9.9E+01                             | 1.3E+02                        | 1.9E+02                        | 6.0E+01                                   |
| Oak Ridge National Laboratory            | 0.0E+00                   | 2.5E+03                   | -2.5E+03                          | 6.6E+02                      | 4.5E+02                      | 2.1E+02                              | 6.6E+02                        | 2.9E+03                        | -2.2E+03                                  |
| Sandia National Laboratory - Albuquerque | 4.6E+00                   | 0.0E+00                   | 4.6E+00                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                              | 4.6E+00                        | 0.0E+00                        | 4.6E+00                                   |
| Savannah River Site / Mound              | 0.0E+00                   | 0.0E+00                   | 0.0E+00                           | 2.3E+01                      | 0.0E+00                      | 2.3E+01                              | 2.3E+01                        | 0.0E+00                        | 2.3E+01                                   |
| Totals <sup>3</sup>                      | 5.3E+03                   | 3.6E+03                   | 1.7E+03                           | 2.1E+03                      | 2.4E+04                      | -2.2E+04                             | 7.4E+03                        | 2.7E+04                        | -2.0E+04                                  |

<sup>1.</sup> See page 1 for discussion.

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<sup>2.</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

<sup>3.</sup> Does not account for emplaced waste.

Table B.1-3 Comparison of Stored, Projected, and Anticipated Total TRU Waste Volumes Between the TWBIR - 2004 and TWBIR Revision 2  $(m^3)^1$ 

| Storage/Generator Site           | TWBIR -<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | Difference in Stored <sup>2</sup> | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | Difference in<br>Projected <sup>2</sup> | TWBIR -<br>2004<br>Anticipated | TWBIR<br>Rev. 2<br>Anticipated | Difference in Anticipated <sup>2</sup> |
|----------------------------------|---------------------------|---------------------------|-----------------------------------|------------------------------|------------------------------|---|--------------------------------|--------------------------------|--|
| CH TRU Waste Volumes             | 1.1E+05                   | 5.8E+04                   | 5.1E+04                           | 3.5E+04                      | 5.4E+04                      | -1.9E+04                                | 1.4E+05                        | 1.1E+05                        | 3.1E+04                                |
| CH Emplaced TRU<br>Waste Volumes | 7.7E+03                   | 0.0E+00                   | 7.7E+03                           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                                 | 7.7E+03                        | 0.0E+00                        | 7.7E+03                                |
| Total CH TRU Waste<br>Volumes    | 1.2E+05                   | 5.8E+04                   | 5.9E+04                           | 3.5E+04                      | 5.4E+04                      | -1.9E+04                                | 1.5E+05                        | 1.1E+05                        | 3.9E+04                                |
| Total RH TRU Waste<br>Volumes    | 5.3E+03                   | 3.6E+03                   | 1.7E+03                           | 2.1E+03                      | 2.3E+04                      | -2.1E+04                                | 7.4E+03                        | 2.7E+04                        | -2.0E+04                               |
| Total TRU Waste<br>Volumes       | 1.2E+05                   | 6.2E+04                   | 6.1E+04                           | 3.7E+04                      | 7.7E+04                      | -4.0E+04                                | 1.6E+05                        | 1.4E+05                        | 2.0E+04                                |

<sup>&</sup>lt;sup>1</sup>See page 1 for discussion.

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<sup>&</sup>lt;sup>2</sup>Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

## **B-1.2** Waste Inventory Comparison by Final Waste Form

Tables B.1-4 through B.1-23 contain two parts, the top portion of each table shows the volume estimates, and the lower portion of each table shows the waste material parameter (WMP) estimates. These tables compare the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) volumes and WMPs for the roll-ups by final waste form. There is one table for each final waste form for each CH- and RH-TRU waste type.

The first part of Tables B.1-4 through B.1-23 contains rolled-up final waste form volume estimates by site, and was compiled using the TWBID Revision 2.1 (LANL 2005). In the upper portion of each table, there are nine columns if waste of that final form has been emplaced, and eight columns if no waste of that final form has emplaced. The first column contains the site identification. Column 2 contains the volume of emplaced waste, if any, for the sites listed. Columns 3 and 4 contain the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) stored volumes, respectively. Columns 5 and 6 contain the TWBIR - 2004 and TWBIR Revision 2 projected volumes, respectively. Columns 7 and 8 contain the TWBIR - 2004 and TWBIR Revision 2 total volumes, respectively. The 8th or 9th and last column, depending on whether or not there is any emplaced waste of that final form, contain the volume difference between the total (anticipated) TWBIR - 2004 and TWBIR Revision 2 volumes (columns 7 and 8, respectively). This volume difference is the result of subtracting TWBIR Revision 2 volumes from TWBIR - 2004 volumes. The sum of each column is shown in the "TRU Waste Site Total" row.

TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) stored and projected waste volumes by site that contributed to the final waste form are given for the applicable sites and for emplaced waste. No waste was emplaced at the time of the TWBIR Revision 2. Sections B-1.4 and B-1.6 explain the volume information in these tables.

The second part of Tables B.1-4 through B.1-23 contains the WMP densities in units of kilograms per cubic meter (kg/m³) and shows the comparison of TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) WMPs for the roll-ups by final waste form. The last column of the WMP table gives the difference between TWBIR Revision 2 density from the TWBIR - 2004 density. TWBIR - 2004 WMP estimates were compiled using TWBID Revision 2.1 (LANL 2005). Sections B-2.1 and B-2.2 explain the WMP estimates in these tables. Section B-2.3 discusses the waste container (packaging) materials.

### **B-1.3** Analysis of CH-TRU Waste Volume Differences by Site

Table B.1-1 compares the stored, projected, and anticipated CH-TRU waste volumes between the TWBIR Revision 2 (DOE 1995) and TWBIR - 2004 inventory estimates by site. Table B.1-3 gives the total CH-TRU waste, RH-TRU waste, and emplaced waste volumes.

The total difference (excludes emplaced waste) in stored CH-TRU waste at the sites is 5.1E+04 m³, or an 89.7 percent increase from the TWBIR Revision 2 (DOE 1995) inventory. The bulk of this additional stored volume came from the Idaho National Laboratory (INL), 3.2E+04 m³; the Savannah River Site (SRS), 1.0E+04 m³; Hanford Office of River Protection (Hanford RP) 3.9E+03 m³; Hanford Richland Operations (Richland RL), 1.0E+03 m³; Los Alamos National

Laboratory (LANL), 1.0E+03 m<sup>3</sup>; and the Rocky Flats Environmental Technology Site (RFETS) 4.6E+03 m<sup>3</sup>. The sites adjusted their existing inventory data based on new information (since the TWBIR Revision 2 inventory) about the waste and/or increased accessibility to the waste. The Hanford River Protection (RP) stored waste (3.9E+03 m<sup>3</sup>) was recently added to the inventory. Several small-quantity generator sites have also added small volumes of CH-TRU stored waste to the inventory that were not previously reported (Battelle Columbus Laboratories (BCL), Bettis Atomic Power Laboratory (BAPL), Knolls Atomic Power Laboratory Nuclear Fuels Services (KAPL-NFS), and Paducah Gaseous Diffusion Plant (PGDP)).

The total projected CH-TRU waste volume has decreased by 1.9E+04 m³, or a 35 percent decrease from the TWBIR Revision 2 (DOE 1995) inventory. The largest decrease in projected CH-TRU waste volume is 2.7E+04 m³ reported by Hanford RL. Changes in future forecast planning volumes based on better knowledge about the waste, on-site burial of non-TRU waste, or re-designation into the stored waste category as a result of waste operations resulted in this decrease.

The anticipated CH-TRU waste is simply the sum of the stored and projected wastes. It follows that the overall change is an increase of 3.1E+04 m<sup>3</sup>, or nearly a 27 percent increase for the anticipated volumes.

The emplaced CH-TRU waste volume as of the inventory date (September 30, 2002) is 7.7E+03 m<sup>3</sup>. As of the inventory date, only CH-TRU waste has been emplaced. Table B.1-3 shows the sum of the stored, projected, anticipated, and emplaced CH-TRU waste volumes as 1.5E+05 m<sup>3</sup>. The total CH-TRU waste volume from the TWBIR Revision 2 (DOE 1995) was 1.1E+05 m<sup>3</sup>, giving a difference of 3.9E+04 m<sup>3</sup>.

# **B-1.4** CH-TRU Waste Volumes by Final Waste Form by Site

Tables B.1-4 through B.1-14 indicates that 6 of the 11 CH-TRU wastes final waste form total volumes increased (filter material, graphite, heterogeneous debris, inorganic non-metal, solidified inorganic material, and solidified organic material). Of these, the heterogeneous debris and solidified inorganic material volumes had the largest increases of 2.2E+04 m³ and 3.4E+04 m³, respectively. The solidified organic material increased by 4.3E+03 m³ and the inorganic non-metal increased by 7.7E+03 m³. The filter material and final waste form volumes increased by 1.3E+03 m³. The graphite material increased by 4.3E+02 m³.

Five of the 11 CH-TRU waste final waste form total volumes decreased (combustible material, graphite, lead/cadmium metal, salt, soil, and uncategorized metal). These decreases ranged from less than 1,9E+02 m³ for lead/cadmium metal, and 1.4E+01 for salt, to 4.2E+03 m³ for combustible material and 2.7E+04 m³ for uncategorized metal.

Table B.1-4 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Combustible Material  $^1$ 

|  | TRU Waste Site Volumes (m <sup>3</sup> ) |                        |                           |                              |                              |                          |                          |                          |  |  |  |  |
|--|--|------------------------|---------------------------|------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--|--|--|--|
| Site   | Emplaced<br>Waste<br>Volume              | TWBIR -<br>2004 Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | TWBIR -<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total Diff. <sup>2</sup> |  |  |  |  |
| Argonne National<br>Laboratory - East        | 0.0E+00                                  | 9.0E+01                | 0.0E+00                   | 6.6E+01                      | 0.0E+00                      | 1.6E+02                  | 0.0E+00                  | 1.6E+02                  |  |  |  |  |
| Argonne National<br>Laboratory - West        | 0.0E+00                                  | 5.4E+00                | 0.0E+00                   | 4.4E+00                      | 1.0E+02                      | 9.8E+00                  | 1.0E+02                  | -9.2E+01                 |  |  |  |  |
| Battelle Columbus<br>Laboratories            | 0.0E+00                                  | 5.2E+00                | 0.0E+00                   | 0.0E+00                      | 0.0E+00                      | 5.2E+00                  | 0.0E+00                  | 5.2E+00                  |  |  |  |  |
| Hanford (Richland-RL)                        | 0.0E+00                                  | 9.8E+01                | 4.6E+02                   | 0.0E+00                      | 1.2E+03                      | 9.8E+01                  | 1.7E+03                  | -1.6E+03                 |  |  |  |  |
| Idaho National Laboratory                    | 6.2E+01                                  | 0.0E+00                | 3.3E+03                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 3.3E+03                  | -3.3E+03                 |  |  |  |  |
| Los Alamos National<br>Laboratory            | 5.9E+00                                  | 2.9E+03                | 1.8E+03                   | 1.4E+03                      | 2.4E+03                      | 4.3E+03                  | 4.2E+03                  | 1.0E+02                  |  |  |  |  |
| Mound Plant                                  | 6.2E+01                                  | 0.0E+00                | 7.1E+00                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 7.1E+00                  | -7.1E+00                 |  |  |  |  |
| Rocky Flats Environmental<br>Technology Site | 4.8E+02                                  | 1.2E+03                | 1.9E+02                   | 4.5E+02                      | 8.6E+02                      | 1.6E+03                  | 1.0E+03                  | 6.0E+02                  |  |  |  |  |
| TRU Waste Site Total                         | 6.1E+02                                  | 4.3E+03                | 5.8E+03                   | 1.9E+03                      | 4.6E+03                      | 6.2E+03                  | 1.0E+04                  | -4.2E+03                 |  |  |  |  |

| Waste Material Parameter      | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 6.2E+01                      | 1.1E+02                      | -4.7E+01            |
| Aluminum Base Metal/Alloys    | 6.9E-01                      | 2.0E-01                      | 4.9E-01             |
| Other Metal/Alloys            | 1.4E+01                      | 1.0E+01                      | 4.0E+00             |
| Other Inorganic Material      | 1.0E+01                      | 8.7E+00                      | 1.3E+00             |
| Cellulosic Material           | 3.0E+01                      | 1.9E+02                      | -1.6E+02            |
| Rubber Material               | 1.2E+01                      | 3.0E+01                      | -1.8E+01            |
| Plastic Material              | 4.4E+01                      | 6.0E+01                      | -1.5E+01            |
| Solidified Inorganic Material | 6.6E-01                      | 0.0E+00                      | 6.6E-01             |
| Cement (Solidified)           | 4.8E-02                      | 0.0E+00                      | 4.8E-02             |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Organic Material   | 1.2E+01                      | 0.0E+00                      | 1.2E+01             |
| Soil                          | 6.9E-01                      | 0.0E+00                      | 6.9E-01             |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-5 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Filter Material $^1$ 

|  | TRU Waste Site Volumes (m <sup>3</sup> ) |                        |                           |                       |                          |                       |                          |                          |  |  |  |
|--|--|------------------------|---------------------------|-----------------------|--------------------------|-----------------------|--------------------------|--------------------------|--|--|--|
| Site   | Emplaced<br>Waste<br>Volume              | TWBIR -<br>2004 Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004 Proj. | TWBIR<br>Rev. 2<br>Proj. | TWBIR -<br>2004 Total | TWBIR<br>Rev. 2<br>Total | Total Diff. <sup>2</sup> |  |  |  |
| Hanford (Richland-RL)                        | 0.0E+00                                  | 2.2E+01                | 0.0E+00                   | 0.0E+00               | 0.0E+00                  | 2.2E+01               | 0.0E+00                  | 2.2E+01                  |  |  |  |
| Idaho National Laboratory                    | 2.9E+02                                  | 0.0E+00                | 1.3E+02                   | 0.0E+00               | 0.0E+00                  | 0.0E+00               | 1.3E+02                  | -1.3E+02                 |  |  |  |
| Lawrence Livermore National<br>Laboratory    | 0.0E+00                                  | 1.9E+02                | 1.6E+01                   | 4.5E+02               | 3.2E+01                  | 6.4E+02               | 4.8E+01                  | 5.9E+02                  |  |  |  |
| Los Alamos National<br>Laboratory            | 0.0E+00                                  | 3.3E+02                | 0.0E+00                   | 0.0E+00               | 0.0E+00                  | 3.3E+02               | 0.0E+00                  | 3.3E+02                  |  |  |  |
| Mound Plant                                  | 0.0E+00                                  | 0.0E+00                | 8.3E-01                   | 0.0E+00               | 0.0E+00                  | 0.0E+00               | 8.3E-01                  | -8.3E-01                 |  |  |  |
| Rocky Flats Environmental<br>Technology Site | 5.6E+01                                  | 4.5E+02                | 7.2E+01                   | 1.4E+02               | 4.8E+02                  | 5.8E+02               | 5.5E+01                  | 5.3E+02                  |  |  |  |
| TRU Waste Site Total                         | 3.4E+02                                  | 9.9E+02                | 2.2E+02                   | 5.9E+02               | 5.1E+02                  | 1.6E+03               | 2.3E+02                  | 1.3E+03                  |  |  |  |

| Waste Material Parameter      | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 8.5E+01                      |                              | -4.5E+02            |
| Aluminum Base Metal/Alloys    | 1.8E+01                      | 1.3E+01                      | 5.0E+00             |
| Other Metal/Alloys            | 5.1E+01                      | 8.0E-01                      | 5.0E+01             |
| Other Inorganic Material      | 1.7E+01                      | 1.5E+01                      | 2.0E+00             |
| Cellulosic Material           | 4.7E+01                      | 5.6E+01                      | -9.0E00             |
| Rubber Material               | 6.2E+00                      | 3.3E+00                      | 2.9E+00             |
| Plastic Material              | 1.5E+01                      | 4.6E+00                      | 1.0E+01             |
| Solidified Inorganic Material | 5.9E-01                      | 0.0E+00                      | 5.9E-01             |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Organic Material   | 3.3E-01                      | 0.0E+00                      | 3.3E-01             |
| Soil                          | 4.7E+00                      | 0.0E+00                      | 4.7E+00             |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-6 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 - Graphite  $^1$ 

| TRU Waste Site Volumes (m <sup>3</sup> )     |         |         |         |         |         |         |          |  |  |
|--|---------|---------|---------|---------|---------|---------|----------|--|--|
|  | TWBIR - | TWBIR   | TWBIR - | TWBIR   | TWBIR - | TWBIR   | <b>5</b> |  |  |
|  | 2004    | Rev. 2  | 2004    | Rev. 2  | 2004    | Rev. 2  | Total    |  |  |
| Site   | Stored  | Stored  | Proj.   | Proj.   | Total   | Total   | Diff.    |  |  |
| Idaho National Laboratory                    | 0.0E+00 | 5.0E+02 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.0E+02 | 5.0E+02  |  |  |
| Rocky Flats Environmental<br>Technology Site | 1.2E+02 | 1.4E+01 | 1.3E+00 | 4.8E+01 | 1.3E+02 | 6.1E+01 | 6.9E+01  |  |  |
| TRU Waste Site Total                         | 1.2E+02 | 5.1E+02 | 1.3E+00 | 4.8E+01 | 1.3E+02 | 5.6E+02 | 4.3E+02  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference<br>(kg/m³) |
|-------------------------------|------------------------------|------------------------------|-----------------------|
| Iron Base Metal/Alloys        | 1.9E+01                      | 1.4E+00                      | 1.8E+01               |
| Aluminum Base                 | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Metal/Alloys                  |                              |                              |                       |
| Other Metal/Alloys            | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Other Inorganic Material      | 1.7E+02                      | 3.0E+02                      | -1.3E+02              |
| Cellulosic Material           | 8.6E+01                      | 4.8E+00                      | 8.1E+01               |
| Rubber Material               | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Plastic Material              | 2.3E+01                      | 5.6E+00                      | 1.7E+01               |
| Solidified Inorganic Material | 7.1E+00                      | 0.0E+00                      | 7.1E+00               |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Solidified Organic Material   | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |
| Soil                          | 0.0E+00                      | 0.0E+00                      | 0.0E+00               |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-7 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 - Heterogeneous  $^1$ 

|  | TR                | U Waste Sit  | e Volumes       | (m <sup>3</sup> ) |                 |              |                 |                    |
|--|-------------------|--------------|-----------------|-------------------|-----------------|--------------|-----------------|--------------------|
|  | Emplaced<br>Waste | TWBIR - 2004 | TWBIR<br>Rev. 2 | TWBIR - 2004      | TWBIR<br>Rev. 2 | TWBIR - 2004 | TWBIR<br>Rev. 2 | Total              |
| Site   | Volume            | Stored       | Stored          | Proj.             | Proj.           | Total        | Total           | Diff. <sup>2</sup> |
| Argonne National Laboratory - West                       | 0.0E+00           | 6.2E-01      | 6.5E+00         | 3.4E+01           | 3.5E+02         | 3.4E+01      | 3.5E+02         | -3.2E+02           |
| Bettis Atomic Power Laboratory                           | 0.0E+00           | 1.9E+01      | 0.0E+00         | 0.0E+00           | 1.2E+02         | 1.9E+01      | 1.2E+02         | -1.0E+02           |
| Energy Technology Engineering<br>Center                  | 0.0E+00           | 1.5E+00      | 1.7E+00         | 0.0E+00           | 0.0E+00         | 1.5E+00      | 1.7E+00         | -2.0E-01           |
| Hanford (Richland-RL)                                    | 9.8E+01           | 1.2E+04      | 1.1E+04         | 6.8E+02           | 6.3E+03         | 1.3E+04      | 1.7E+04         | -4.0E+03           |
| Idaho National Laboratory                                | 0.0E+00           | 2.0E+04      | 1.1E+04         | 5.6E+03           | 0.0E+00         | 2.5E+04      | 1.1E+04         | 1.4E+04            |
| Knolls Atomic Power Laboratory-<br>Nuclear Fuel Services | 0.0E+00           | 5.5E+01      | 0.0E+00         | 1.7E+02           | 0.0E+00         | 2.3E+02      | 0.0E+00         | 2.3E+02            |
| Lawrence Livermore National<br>Laboratory                | 0.0E+00           | 1.3E+02      | 2.0E+02         | 1.4E+03           | 6.6E+02         | 1.6E+03      | 8.6E+02         | 7.4E+02            |
| Los Alamos National Laboratory                           | 2.7E+02           | 2.1E+03      | 1.6E+01         | 1.4E+03           | 2.9E+01         | 3.5E+03      | 4.5E+01         | 3.5E+03            |
| Mound Plant  | 0.0E+00           | 0.0E+00      | 6.2E-01         | 0.0E+00           | 0.0E+00         | 0.0E+00      | 6.2E-01         | -6.2E-01           |
| Nevada Test Site   | 0.0E+00           | 6.1E+02      | 6.1E+02         | 4.6E+02           | 9.0E+00         | 1.1E+03      | 6.2E+02         | 4.8E+02            |
| Oak Ridge National Laboratory                            | 0.0E+00           | 0.0E+00      | 1.3E+03         | 4.5E+02           | 2.6E+02         | 4.5E+02      | 1.6E+03         | -1.1E+03           |
| Pantex Plant   | 0.0E+00           | 0.0E+00      | 6.2E-01         | 0.0E+00           | 0.0E+00         | 0.0E+00      | 6.2E-01         | -6.2E-01           |
| Rocky Flats Environmental<br>Technology Site             | 6.8E+01           | 1.0E+03      | 3.9E+00         | 1.2E+03           | 0.0E+00         | 2.2E+03      | 3.9E+00         | 2.2E+03            |
| Sandia National Laboratories-<br>Albuquerque             | 0.0E+00           | 2.4E+01      | 6.7E+00         | 0.0E+00           | 7.5E+00         | 2.4E+01      | 1.4E+01         | 1.0E+01            |
| Savannah River Site                                      | 1.4E+02           | 1.3E+04      | 2.6E+03         | 2.4E+03           | 5.5E+03         | 1.5E+04      | 8.1E+03         | 6.9E+03            |
| U.S. Army Materiel Command                               | 0.0E+00           | 2.5E+00      | 2.5E+00         | 0.0E+00           | 0.0E+00         | 2.5E+00      | 2.5E+00         | 0.0E-01            |
| University of Missouri Research<br>Reactor               | 0.0E+00           | 1.5E+00      | 2.1E-01         | 0.0E+00           | 8.3E-01         | 1.5E+00      | 1.0E+00         | 5.0E-01            |
| TRU Waste Site Total                                     | 5.7E+02           | 4.9E+04      | 2.7E+04         | 1.4E+04           | 1.3E+04         | 6.3E+04      | 4.0E+04         | 2.2E+04            |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 2.4E+02                      | 2.5E+02                      | -1.1E+01            |
| Aluminum Base Metal/Alloys    | 3.1E+01                      | 4.6E+01                      | -1.5E+01            |
| Other Metal/Alloys            | 5.7E+01                      | 5.7E+00                      | 5.1E+01             |
| Other Inorganic Material      | 5.3E+01                      | 2.6E+01                      | 2.7E+01             |
| Cellulosic Material           | 1.2E+02                      | 8.6E+01                      | 3.4E+01             |
| Rubber Material               | 3.0E+01                      | 1.9E+01                      | 1.1E+01             |
| Plastic Material              | 8.4E+01                      | 7.2E+01                      | 1.3E+01             |
| Solidified Inorganic Material | 3.5E+00                      | 3.8E+00                      | -3.0E-01            |
| Cement (Solidified)           | 1.5E-01                      | 0.0E+00                      | 1.5E-01             |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Organic Material   | 3.4E+00                      | 4.0E-01                      | 3.0E+00             |
| Soil                          | 8.7E+01                      | 2.9E+00                      | 8.4E+01             |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-8 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Inorganic Non-Metal  $^1$ 

| TRU Waste Site Volumes (m³)               |                             |                           |                           |                          |                          |                          |                          |                             |  |  |
|---|-----------------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|--|--|
| Site                                      | Emplaced<br>Waste<br>Volume | TWBIR -<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004<br>Proj. | TWBIR<br>Rev. 2<br>Proj. | TWBIR -<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total<br>Diff. <sup>2</sup> |  |  |
| Hanford (Richland-RL)                     | 0.0E+00                     | 1.1E+01                   | 3.5E+01                   | 3.0E+01                  | 6.9E+01                  | 4.1E+01                  | 1.0E+02                  | -5.9E+01                    |  |  |
| Idaho National Laboratory                 | 4.3E+02                     | 1.1E+04                   | 3.0E+03                   | 0.0E+00                  | 0.0E+00                  | 1.1E+04                  | 3.0E+03                  | 8.0E+03                     |  |  |
| Paducah Gaseous Diffusion Plant           | 0.0E+00                     | 5.7E+00                   | 0.0E+00                   | 5.7E+00                  | 1.9E+00                  | 1.1E+01                  | 1.9E+00                  | 9.1E+00                     |  |  |
| Rocky Flats Environmental Technology Site | 5.4E+02                     | 6.5E+02                   | 5.8E+01                   | 3.2E+01                  | 8.7E+02                  | 6.8E+02                  | 9.3E+02                  | -2.5E+02                    |  |  |
| Teledyne Brown Engineering                | 0.0E+00                     | 0.0E+00                   | 2.1E-01                   | 0.0E+00                  | 0.0E+00                  | 0.0E+00                  | 2.1E-01                  | -2.1E-01                    |  |  |
| TRU Waste Site Total                      | 9.7E+02                     | 1.2E+04                   | 3.1E+03                   | 6.8E+01                  | 9.4E+02                  | 1.2E+04                  | 4.0E+03                  | 7.7E+03                     |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 4.2E+00                      | 2.8E+00                      | 1.4E+00             |
| Aluminum Base Metal/Alloys    | 1.2E-02                      | 0.0E+00                      | 1.2E-02             |
| Other Metal/Alloys            | 5.0E+00                      | 2.0E-01                      | 4.8E+00             |
| Other Inorganic Material      | 5.5E+01                      | 1.0E+02                      | -4.5E+01            |
| Cellulosic Material           | 1.9E+01                      | 1.6E+01                      | 3.0E+00             |
| Rubber Material               | 1.1E-01                      | 4.0E-01                      | -2.9E-01            |
| Plastic Material              | 2.7E+00                      | 6.7E+00                      | -4.0E+00            |
| Solidified Inorganic Material | 9.0E-01                      | 1.4E+00                      | -5.0E-01            |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Vitrified Material            | 7.1E+01                      | 1.4E+03                      | -1.3E+03            |
| Solidified Organic Material   | 2.7E-05                      | 0.0E+00                      | 2.7E-05             |
| Soil                          | 1.8E-03                      | 0.0E+00                      | 1.8E-03             |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-9 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Lead/Cadmium  $Metal^1$ 

|  | TRU Waste Site Volumes (m³) |                           |                           |                          |                          |                          |                          |                             |  |  |  |  |
|--|-----------------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|--|--|--|--|
| Site   | Emplaced<br>Waste<br>Volume | TWBIR -<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004<br>Proj. | TWBIR<br>Rev. 2<br>Proj. | TWBIR -<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total<br>Diff. <sup>2</sup> |  |  |  |  |
| Argonne National Laboratory-<br>East         | 0.0E+00                     | 0.0E+00                   | 1.1E+00                   | 0.0E+00                  | 1.3E+00                  | 0.0E+00                  | 2.4E+00                  | -2.4E+00                    |  |  |  |  |
| Hanford (Richland-RL)                        | 0.0E+00                     | 1.7E+01                   | 1.4E+01                   | 1.4E+01                  | 3.5E+01                  | 3.1E+01                  | 4.9E+01                  | -1.8E+01                    |  |  |  |  |
| Idaho National Laboratory                    | 8.1E+01                     | 0.0E+00                   | 1.4E+01                   | 0.0E+00                  | 0.0E+00                  | 0.0E+00                  | 1.4E+01                  | -1.4E+01                    |  |  |  |  |
| Los Alamos National Laboratory               | 0.0E+00                     | 3.7E+00                   | 1.9E+00                   | 0.0E+00                  | 0.0E+00                  | 3.7E+00                  | 1.9E+00                  | 1.9E+00                     |  |  |  |  |
| Rocky Flats Environmental<br>Technology Site | 0.0E+00                     | 1.2E+02                   | 4.0E+00                   | 1.8E+01                  | 3.0E+02                  | 1.4E+02                  | 3.0E+02                  | -1.6E+02                    |  |  |  |  |
| TRU Waste Site Total                         | 8.1E+01                     | 1.4E+02                   | 3.5E+01                   | 3.2E+01                  | 3.4E+02                  | 1.7E+02                  | 3.7E+02                  | -1.9E+02                    |  |  |  |  |

| Waste Material Parameter      | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference<br>(kg/m³)² |
|-------------------------------|------------------------------|------------------------------|------------------------|
| Iron Base Metal/Alloys        | 9.3E+02                      | 1.3E+02                      | 7.9E+02                |
| Aluminum Base Metal/Alloys    | 1.8E+01                      | 1.7E+01                      | 1.0E+00                |
| Other Metal/Alloys            | 1.5E+02                      | 5.2E+01                      | 9.8E+01                |
| Other Inorganic Material      | 1.7E+01                      | 1.2E+01                      | 5.0E+00                |
| Cellulosic Material           | 4.8E+00                      | 4.0E+00                      | 8.0E-01                |
| Rubber Material               | 3.3E+00                      | 1.6E+01                      | -1.2E+01               |
| Plastic Material              | 9.1E+00                      | 2.2E+01                      | -1.3E+01               |
| Solidified Inorganic Material | 8.2E-01                      | 0.0E+00                      | 8.2E-01                |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E-02                |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Solidified Organic Material   | 1.1E-02                      | 0.0E+00                      | 1.1E-02                |
| Soil                          | 1.6E-01                      | 0.0E+00                      | 1.6E-01                |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-10 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Salt  $^1$ 

Final Waste Form: Salt

|  |                             | TRU W                     | aste Site Vol             | umes (m <sup>3</sup> )       |                              |                          |                          |                          |  |  |
|--|-----------------------------|---------------------------|---------------------------|------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--|--|
| Site   | Emplaced<br>Waste<br>Volume | TWBIR –<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR –<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | TWBIR –<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total Diff. <sup>2</sup> |  |  |
| Idaho National Laboratory                    | 0.0E+00                     | 0.0E+00                   | 2.1E+01                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 2.1E+01                  | -2.1E+01                 |  |  |
| Lawrence Livermore<br>National Laboratory    | 0.0E+00                     | 1.2E+00                   | 6.2E-01                   | 1.5E+01                      | 3.0E+00                      | 1.6E+01                  | 3.6E+00                  | 1.3E+01                  |  |  |
| Los Alamos National<br>Laboratory            | 0.0E+00                     | 1.3E+02                   | 0.0E+00                   | 1.7E+02                      | 0.0E+00                      | 3.0E+02                  | 0.0E+00                  | 3.0E+02                  |  |  |
| Rocky Flats Environmental<br>Technology Site | 1.5E+03                     | 2.5E+01                   | 0.0E+00                   | 0.0E+00                      | 3.3E+02                      | 2.5E+01                  | 3.3E+02                  | -3.1E+02                 |  |  |
| TRU Waste Site Total                         | 1.5E+03                     | 1.6E+02                   | 2.2E+01                   | 1.9E+02                      | 3.3E+02                      | 3.4E+02                  | 3.5E+02                  | -1.4E+01                 |  |  |
|  |                             |                           |                           |                              |                              |                          |                          |                          |  |  |
| Waste Material Parameters                    | TWBIF                       | R - 2004 Den              | sity (kg/m³)              | TWBIR                        | TWBIR Rev. 2 Density (kg/m³) |                          |                          | Difference (kg/m³)²      |  |  |
| Iron Base Metal/Alloys                       |                             | 9.7E+00                   | )                         |                              | 1.8E+02                      |                          |                          | -1.7E+02                 |  |  |
| Aluminum Base Metal/Alloys                   |                             | 5.7E-02                   |                           |                              | 1.0E-01                      |                          | -4                       | -4.3E-02                 |  |  |
| Other Metal/Alloys                           |                             | 3.6E+00                   | )                         |                              | 2.3E+00                      |                          |                          | 1.3E+00                  |  |  |
| Other Inorganic Material                     |                             | 2.1E+02                   |                           |                              | 1.7E+02                      |                          | 4.                       | .0E+01                   |  |  |
| Cellulosic Material                          |                             | 1.4E+02                   |                           |                              | 1.6E+02                      |                          | -2                       | .0E+01                   |  |  |
| Rubber Material                              |                             | 4.1E-02                   |                           |                              | 0.0E+00                      |                          | 4                        | .1E-02                   |  |  |
| Plastic Material                             |                             | 8.9E-01                   |                           |                              | 6.0E-01                      |                          | 2                        | .9E-01                   |  |  |
| Solidified Inorganic Material                |                             | 9.7E+00                   |                           |                              | 0.0E+00                      |                          |                          | 9.7E+00                  |  |  |
| Cement (Solidified)                          |                             | 0.0E+00                   |                           |                              | 0.0E+00                      |                          |                          | .0E+00                   |  |  |
| Vitrified Material                           |                             | 0.0E+00                   |                           |                              | 0.0E+00                      |                          |                          | 0.0E+00                  |  |  |
| Solidified Organic Material                  |                             | 1.2E+01                   |                           |                              | 0.0E+00                      |                          | 1.                       | 1.2E+01                  |  |  |
| Soil   |                             | 1.5E+00                   | )                         |                              | 0.0E+00                      |                          | 1.                       | 1.5E+00                  |  |  |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-11 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Soil $^1$ 

Final Waste Form: Soil

|                                | TRU Waste Site Volumes (m <sup>3</sup> ) |                           |                              |                              |                          |                          |                             |  |  |  |  |
|--------------------------------|--|---------------------------|------------------------------|------------------------------|--------------------------|--------------------------|-----------------------------|--|--|--|--|
| Site                           | TWBIR –<br>2004<br>Stored                | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | TWBIR -<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total<br>Diff. <sup>2</sup> |  |  |  |  |
| Hanford (Richland) Site        | 1.1E+02                                  | 1.2E+02                   | 0.0E+00                      | 6.0E+03                      | 1.1E+02                  | 6.1E+03                  | -6.0E+03                    |  |  |  |  |
| Idaho National Laboratory      | 0.0E+00                                  | 0.0E+00                   | 9.7E+01                      | 0.0E+00                      | 9.7E+01                  | 0.0E+00                  | 9.7E+01                     |  |  |  |  |
| Los Alamos National Laboratory | 1.9E+02                                  | 1.1E+02                   | 0.0E+00                      | 2.9E+01                      | 1.9E+02                  | 1.4E+02                  | 5.0E+01                     |  |  |  |  |
| Mound Plant                    | 0.0E+00                                  | 1.8E+02                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 1.8E+02                  | -1.8E+02                    |  |  |  |  |
| TRU Waste Site Total           | 3.0E+02                                  | 4.1E+02                   | 9.7E+01                      | 6.0E+03                      | 4.0E+02                  | 6.4E+03                  | -6.0E+03                    |  |  |  |  |
|                                |  |                           |                              |                              |                          | •                        |                             |  |  |  |  |
|                                |  |                           |                              |                              |                          | Diff                     | ference                     |  |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m <sup>3</sup> ) | Difference<br>(kg/m³)² |
|-------------------------------|------------------------------|---|------------------------|
| Iron Base Metal/Alloys        | 7.2E+01                      | 1.7E+00                                   | 7.0E+01                |
| Aluminum Base Metal/Alloys    | 0.0E+00                      | 0.0E+00                                   | 0.0E+00                |
| Other Metal/Alloys            | 8.8E+00                      | 0.0E+00                                   | 8.8E+00                |
| Other Inorganic Material      | 1.5E+01                      | 1.0E+00                                   | 1.4E+01                |
| Cellulosic Material           | 1.8E+01                      | 3.7E+00                                   | 1.5E+01                |
| Rubber Material               | 2.9E-01                      | 1.7E+00                                   | -1.4E+00               |
| Plastic Material              | 2.4E+00                      | 3.2E+00                                   | -8.0E-01               |
| Solidified Inorganic Material | 2.4E+01                      | 0.0E+00                                   | 2.4E+01                |
| Cement (Solidified)           | 2.9E+01                      | 0.0E+00                                   | 2.9E+01                |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                                   | 0.0E+00                |
| Solidified Organic Material   | 5.5E+01                      | 1.0E-01                                   | 5.5E+01                |
| Soil                          | 5.8E+02                      | 7.6E+02                                   | -1.8E+02               |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-12 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Solidified Inorganics  $^1$ 

Final Waste Form: Solidified Inorganics

|  |                             | TRU Wa                    | ste Site Volu             | imes (m <sup>3</sup> )       |                              |                          |                          |                             |
|--|-----------------------------|---------------------------|---------------------------|------------------------------|------------------------------|--------------------------|--------------------------|-----------------------------|
| Site   | Emplaced<br>Waste<br>Volume | TWBIR –<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR –<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | TWBIR –<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total<br>Diff. <sup>2</sup> |
| Ames Laboratory- Iowa State<br>University    | 0.0E+00                     | 0.0E+00                   | 0.0E+00                   | 0.0E+00                      | 4.2E-01                      | 0.0E+00                  | 4.2E-01                  | -4.2E-01                    |
| Argonne National Laboratory -<br>East        | 0.0E+00                     | 2.4E+01                   | 5.2E+00                   | 1.3E+01                      | 0.0E+00                      | 3.7E+01                  | 5.2E+00                  | 3.2E+01                     |
| Hanford (Richland-RL)                        | 0.0E+00                     | 1.9E+02                   | 1.3E+01                   | 3.0E+01                      | 7.1E+00                      | 2.2E+02                  | 2.0E+01                  | 2.0E+02                     |
| Hanford (River Protection) Site              | 0.0E+00                     | 3.9E+03                   | 0.0E+00                   | 0.0E+00                      | 0.0E+00                      | 3.9E+03                  | 0.0E+00                  | 3.9E+03                     |
| Idaho National Laboratory                    | 2.0E+03                     | 2.9E+04                   | 4.3E+03                   | 8.3E+03                      | 0.0E+00                      | 3.8E+04                  | 4.3E+03                  | 3.4E+04                     |
| Lawrence Livermore National<br>Laboratory    | 0.0E+00                     | 1.4E+01                   | 1.4E+01                   | 1.8E+02                      | 5.8E+00                      | 1.9E+02                  | 2.0E+01                  | 1.7E+02                     |
| Los Alamos National<br>Laboratory            | 0.0E+00                     | 4.5E+03                   | 4.9E+03                   | 2.4E+02                      | 2.0E+03                      | 4.7E+03                  | 6.9E+03                  | -2.2E+03                    |
| Mound Plant                                  | 0.0E+00                     | 0.0E+00                   | 6.0E+00                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 6.0E+00                  | -6.0E+00                    |
| Nevada Test Site                             | 0.0E+00                     | 5.7E+00                   | 5.7E+00                   | 0.0E+00                      | 0.0E+00                      | 5.7E+00                  | 5.7E+00                  | 0.0E+00                     |
| Rocky Flats Environmental<br>Technology Site | 1.3E+03                     | 8.1E+02                   | 1.7E+02                   | 2.7E+02                      | 1.3E+03                      | 1.1E+03                  | 1.4E+03                  | -3.0E+02                    |
| Savannah River Site                          | 0.0E+00                     | 2.4E+01                   | 2.0E+02                   | 0.0E+00                      | 1.2E+03                      | 2.4E+01                  | 1.4E+03                  | -1.4E+03                    |
| TRU Waste Site Total                         | 3.3E+03                     | 3.9E+04                   | 9.6E+03                   | 9.0E+03                      | 4.5E+03                      | 4.8E+04                  | 1.4E+04                  | 3.4E+04                     |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 3.6E+00                      | 1.8E+02                      | -1.8E+02            |
| Aluminum Base Metal/Alloys    | 2.6E-02                      | 0.0E+00                      | 2.6E-02             |
| Other Metal/Alloys            | 2.9E+00                      | 8.0E-01                      | 2.1E+00             |
| Other Inorganic Material      | 2.7E+01                      | 8.1E+01                      | -5.4E+01            |
| Cellulosic Material           | 6.1E+00                      | 4.0E-01                      | 5.7E+00             |
| Rubber Material               | 2.1E-02                      | 0.0E+00                      | 2.1E-02             |
| Plastic Material              | 3.2E+00                      | 2.2E+00                      | 1.0E+00             |
| Solidified Inorganic Material | 2.4E+02                      | 4.2E+02                      | -1.8E+02            |
| Cement (Solidified)           | 1.1E+02                      | 3.9E+02                      | -2.8E+02            |
| Vitrified Material            | 3.5E-02                      | 3.2E+01                      | -3.2E+01            |
| Solidified Organic Material   | 1.0E+01                      | 1.0E-01                      | 9.9E+00             |
| Soil                          | 1.6E+02                      | 6.0E-01                      | 1.6E+02             |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-13 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Solidified  $\mathbf{Organics}^1$ 

Final Waste Form: Solidified Organics

|  |                              |                     |                        | . 3.      |                        |                     |                          |
|--|------------------------------|---------------------|------------------------|-----------|------------------------|---------------------|--------------------------|
|  | TH<br>TWBIR -                | RU Waste S<br>TWBIR | ite Volumes<br>TWBIR - | TWBIR     | TWBIR -                | TWBIR               |                          |
|  | 2004                         | Rev. 2              | 2004                   | Rev. 2    | 2004                   | Rev. 2              |                          |
| Site   | Stored                       | Stored              | Projected              | Projected | Total                  | Total               | Total Diff. <sup>2</sup> |
| Argonne National Laboratory - East             | 0.0E+00                      | 2.1E-01             | 0.0E+00                | 0.0E+00   | 0.0E+00                | 2.1E-01             | -2.1E-01                 |
| Energy Technology Engineering                  |                              |                     |                        |           |                        |                     |                          |
| Center   | 8.4E-01                      | 0.0E+00             | 0.0E+00                | 0.0E+00   | 8.4E-01                | 0.0E+00             |                          |
| Hanford (Richland) Site                        | 2.3E+00                      | 7.4E+00             | 3.4E+02                | 9.4E+00   | 3.4E+02                | 1.7E+01             | 3.2E+02                  |
| Idaho National Laboratory                      | 1.1E+03                      | 7.9E+02             | 3.5E+03                | 0.0E+00   | 4.7E+03                | 7.9E+02             | 3.9E+03                  |
| Lawrence Livermore National                    |                              |                     |                        |           |                        |                     |                          |
| Laboratory                                     | 8.1E+00                      | 1.0E+00             | 4.8E+00                | 5.8E+00   | 1.3E+01                | 6.9E+00             | 6.1E+00                  |
| Los Alamos National Laboratory                 | 2.9E+01                      | 1.5E+00             | 2.7E+01                | 2.9E+01   | 5.6E+01                | 3.1E+01             | 2.5E+01                  |
| Rocky Flats Environmental<br>Technology Center | 1.4E+02                      | 1.1E+02             | 4.4E+00                | 3.1E+01   | 1.4E+02                | 1.4E+02             | 0.0E+00                  |
| TRU Waste Site Total                           | 1.3E+03                      | 9.1E+02             | 3.9E+03                | 7.5E+01   | 5.2E+03                | 9.8E+02             | 4.3E+03                  |
| Waste Material Parameters                      | TWBIR - 2004 Density (kg/m³) |                     |                        | TWBIR Re  | v (kg/m <sup>3</sup> ) | Difference (kg/m³)² |                          |
| Iron Base Metal/Alloys                         |                              | 7.9E-01             |                        |           |                        | 4.9E-01             |                          |
| Aluminum Base Metal/Alloys                     |                              | 6.1E-02             |                        |           |                        | 6.1E-02             |                          |
| Other Metal/Alloys                             |                              | 3.5E-01             |                        |           |                        | 3.5E-01             |                          |
| Other Inorganic Material                       |                              | 2.9E+01             |                        |           |                        | -9.1E+01            |                          |
| Cellulosic Material                            |                              | 1.3E-01             |                        |           | 3.0E-01                |                     | -1.7E-01                 |
| Rubber Material                                |                              | 3.5E-02             |                        |           | 0.0E+00                |                     | 3.5E-02                  |
| Plastic Material                               |                              | 1.2E+02             |                        |           | 6.7E+00                |                     | 1.1E+02                  |
| Solidified Inorganic Material                  |                              | 6.6E+02             |                        |           | 2.1E+01                |                     | 6.4E+02                  |
| Cement (Solidified)                            |                              | 4.3E+01             |                        |           |                        | -8.7E+01            |                          |
| Vitrified Material                             |                              | 0.0E+00             |                        | 0.0E+00   |                        |                     | 0.0E+00                  |
| Solidified Organic Material                    |                              | 7.9E+02             |                        |           | 6.1E+02                |                     | 1.7E+02                  |
| Soil   |                              | 6.4E+02             |                        |           | 2.0E-01                |                     | 6.4E+02                  |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-14 WIPP CH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2—Uncategorized  $Metal^1$ 

Final Waste Form: Uncategorized Metal

|  |                             | TRU Wa                    | ste Site Volu             | imes (m³)    |                              |                          |  |                          |
|--|-----------------------------|---------------------------|---------------------------|--------------|------------------------------|--------------------------|--|--------------------------|
| Site   | Emplaced<br>Waste<br>Volume | TWBIR –<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR - 2004 | TWBIR<br>Rev. 2<br>Projected | TWBIR –<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total                     | Total Diff. <sup>2</sup> |
| Argonne National Laboratory-<br>East         | 0.0E+00                     | 0.0E+00                   | 5.0E+00                   | 0.0E+00      | 1.3E+02                      | 0.0E+00                  | 1.3E+02                                      | -1.3E+02                 |
| Argonne National Laboratory-<br>West         | 0.0E+00                     | 0.0E+00                   | 0.0E+00                   | 0.0E+00      | 2.9E+02                      | 0.0E+00                  | 2.9E+02                                      | -2.9E+02                 |
| Hanford (Richland-RL)                        | 0.0E+00                     | 1.1E+02                   | 4.4E+02                   | 4.4E+03      | 2.0E+04                      | 4.5E+03                  | 2.0E+04                                      | -1.6E+04                 |
| Idaho National Laboratory                    | 1.1E+01                     | 9.4E+00                   | 5.9E+03                   | 0.0E+00      | 0.0E+00                      | 9.4E+00                  | 5.9E+03                                      | -5.9E+03                 |
| Los Alamos National<br>Laboratory            | 0.0E+00                     | 1.5E+03                   | 4.2E+03                   | 3.2E+01      | 2.9E+03                      | 1.5E+03                  | 7.1E+03                                      | -5.6E+03                 |
| Mound Plant                                  | 0.0E+00                     | 0.0E+00                   | 8.2E+01                   | 0.0E+00      | 0.0E+00                      | 0.0E+00                  | 8.2E+01                                      | -8.2E+01                 |
| Rocky Flats Environmental<br>Technology Site | 3.5E+02                     | 7.9E+02                   | 9.3E+01                   | 6.7E+02      | 2.4E+02                      | 1.5E+03                  | 3.3E+02                                      | 1.2E+03                  |
| Savannah River Site                          | 0.0E+00                     | 0.0E+00                   | 7.0E+01                   | 0.0E+00      | 1.2E+02                      | 0.0E+00                  | 1.9E+02                                      | -1.9E+02                 |
| TRU Waste Site Total                         | 3.6E+02                     | 2.4E+03                   | 1.1E+04                   | 5.1E+03      | 2.4E+04                      | 7.5E+03                  | 3.4E+04                                      | -2.7E+04                 |
|  |                             |                           |                           |              |                              |                          |  |                          |
| Waste Material Parameters                    | TWBI                        | R - 2004 De               | nsity (kg/m               | B) TW        | BIR Rev. 2                   | g/m <sup>3</sup> )       | Difference (kg/m <sup>3</sup> ) <sup>2</sup> |                          |
| Iron Base Metal/Alloys                       |                             | 1.1E+0                    | )2                        |              | 1.5E                         |                          | -4.0E+01                                     |                          |
| Aluminum Base Metal/Alloys                   |                             | 5.3E+0                    | 00                        |              | 3.5H                         |                          | 1.8E+00                                      |                          |
| Other Metal/Alloys                           |                             | 1.0E+0                    | )2                        |              | 2.1E                         |                          | -1.1E+02                                     |                          |
| Other Inorganic Material                     |                             | 2.4E+0                    | 00                        |              | 1.4E                         | E+01                     |  | -1.2E+01                 |
| Cellulosic Material                          |                             | 1.1E+0                    | )1                        |              | 1.2E                         | E+01                     |  | -1.0E+00                 |
| Rubber Material                              |                             | 1.6E+0                    | 00                        |              | 7.01                         | E-01                     |  | 9.0E-01                  |
| Plastic Material                             |                             | 7.4E+0                    | 00                        |              | 7.9E                         | E+00                     |  | -5.0E-01                 |
| Solidified Inorganic Material                |                             | 7.7E+0                    | 00                        |              | 0.0E                         | E+00                     |  | 7.7E+00                  |
| Cement (Solidified)                          |                             | 0.0E+0                    | 00                        |              | 0.0E                         |                          | 0.0E+00                                      |                          |
| Vitrified Material                           |                             | 0.0E+0                    | 00                        |              | 0.0E                         |                          | 0.0E+00                                      |                          |
| Solidified Organic Material                  |                             | 6.4E-0                    | 1                         |              | 0.0E                         | E+00                     |  | 6.4E-01                  |
| Soil   |                             | 8.7E-0                    | 3                         |              | 0.0E                         | E+00                     |  | 8.7E-03                  |

<sup>1</sup> See pages 1 and 27 - 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-15. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Combustible Material  $^1$ 

Final Waste Form: Combustible Material

|                                |         | TRU Wa                    | ste Site Vol              | umes (m <sup>3</sup> )       |                              |                          |                     |                     |                          |
|--------------------------------|---------|---------------------------|---------------------------|------------------------------|------------------------------|--------------------------|---------------------|---------------------|--------------------------|
| Site                           |         | TWBIR –<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR - 2004 Projecte d      | TWBIR<br>Rev. 2<br>Projected | TWBIR –<br>2004<br>Total | TWB<br>Rev.<br>Tota | 2                   | Total Diff. <sup>2</sup> |
| Battelle Columbus Laboratories | s       | 1.7E+01                   | 0.0E+00                   | 8.9E-01                      | 0.0E+00                      | 1.8E+01                  | 0.0E+               | 00                  | 1.8E+01                  |
| Hanford (Richland-RL)          |         | 8.9E-01                   | 0.0E+00                   | 0.0E+00                      | 0.0E+00                      | 8.9E-01                  | 0.0E+               | 00                  | 8.9E-01                  |
| Idaho National Laboratory      |         | 0.0E+00                   | 2.1E+01                   | 0.0E+00                      | 0.0E+00                      | 0.0E+00                  | 2.1E+               | 01                  | -2.1E+01                 |
| Los Alamos National Laborator  | y       | 0.0E+00                   | 1.5E+01                   | 0.0E+00                      | 4.9E+01                      | 0.0E+00                  | 6.4E+               | 01                  | -6.4E+01                 |
| TRU Waste Site Total           |         | 1.8E+01                   | 3.6E+01                   | 8.9E-01                      | 4.9E+01                      | 1.9E+01                  | 8.5E+               | 01                  | -6.6E+01                 |
|                                |         |                           |                           |                              |                              |                          |                     |                     |                          |
| Waste Material Parameters      | TWBIR - | 2004 Densi                | ty (kg/m <sup>3</sup> )   | TWBIR Rev. 2 Density (kg/m³) |                              |                          |                     | Difference (kg/m³)² |                          |
| Iron Base Metal/Alloys         |         | 8.7E+00                   |                           | 1.9E+02                      |                              |                          |                     | -1.8E+02            |                          |
| Aluminum Base Metal/Alloys     |         | 7.6E+00                   |                           | 3.0E-01                      |                              |                          |                     | 7                   | '.3E+00                  |
| Other Metal/Alloys             |         | 6.3E+00                   |                           | 1.7E+01                      |                              |                          |                     | -]                  | 1.1E+01                  |
| Other Inorganic Material       |         | 9.2E+00                   |                           | 8.6E+00                      |                              |                          |                     | 6                   | 5.0E-01                  |
| Cellulosic Material            |         | 3.9E+01                   |                           |                              | 4.9E+01                      |                          |                     |                     | 1.0E+01                  |
| Rubber Material                |         | 2.3E+01                   |                           |                              | 6.4E+0                       | 1                        |                     | -4                  | 4.1E+01                  |
| Plastic Material               |         | 9.2E+01                   |                           |                              | 7.0E+0                       | 0                        |                     | 8                   | 5.5E+01                  |
| Solidified Inorganic Material  |         | 0.0E+00                   |                           |                              | 0.0E+00                      | 0                        |                     | 0                   | 0.0E+00                  |
| Cement (Solidified)            |         | 1.7E+01                   |                           |                              | 0.0E+00                      |                          |                     | 1                   | .7E+01                   |
| Vitrified Material             |         | 0.0E+00                   |                           | 0.0E+00                      |                              |                          |                     | _                   | 0.0E+00                  |
| Solidified Organic Material    |         | 1.5E+00                   |                           |                              | 0.0E+0                       |                          |                     |                     | .5E+00                   |
| Soil                           |         | 1.4E+00                   |                           |                              | 0.0E+00                      | 0                        |                     | 1                   | .4E+00                   |

<sup>1</sup> See pages 28 and 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-16. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Filter Material  $^1$ 

Final Waste Form: Filter Material

| TRU Waste Site Volumes (m³)           |                           |                           |                              |                              |                          |                          |                          |  |  |  |
|---------------------------------------|---------------------------|---------------------------|------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--|--|--|
| Site                                  | TWBIR –<br>2004<br>Stored | TWBIR<br>Rev. 2<br>Stored | TWBIR -<br>2004<br>Projected | TWBIR<br>Rev. 2<br>Projected | TWBIR –<br>2004<br>Total | TWBIR<br>Rev. 2<br>Total | Total Diff. <sup>2</sup> |  |  |  |
| Argonne National Laboratory -<br>West | 1.8E+00                   | 0.0E+00                   | 8.9E+00                      | 0.0E+00                      | 1.1E+01                  | 0.0E+00                  | 1.1E+01                  |  |  |  |
| <b>Battelle Columbus Laboratories</b> | 5.3E+00                   | 0.0E+00                   | 0.0E+00                      | 0.0E+00                      | 5.3E+00                  | 0.0E+00                  | 5.3E+00                  |  |  |  |
| Hanford (Richland-RL)                 | 1.8E+00                   | 0.0E+00                   | 0.0E+00                      | 0.0E+00                      | 1.8E+00                  | 0.0E+00                  | 1.8E+00                  |  |  |  |
| TRU Waste Site Total                  | 8.9E+00                   | 0.0E+00                   | 8.9E+00                      | 0.0E+00                      | 1.8E+01                  | 0.0E+00                  | 1.8E+01                  |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | y (kg/m³) TWBIR Rev. 2 Density (kg/m³) |         |
|-------------------------------|------------------------------|--|---------|
| Iron Base Metal/Alloys        | 3.3E+01                      | 0.0E+00                                | 3.3E+01 |
| Aluminum Base Metal/Alloys    | 1.7E+01                      | 0.0E+00                                | 1.7E+01 |
| Other Metal/Alloys            | 4.3E+01                      | 0.0E+00                                | 4.3E+01 |
| Other Inorganic Material      | 1.1E+02                      | 0.0E+00                                | 1.1E+02 |
| Cellulosic Material           | 7.3E+01                      | 0.0E+00                                | 7.3E+01 |
| Rubber Material               | 1.9E+01                      | 0.0E+00                                | 1.9E+01 |
| Plastic Material              | 6.3E+00                      | 0.0E+00                                | 6.3E+00 |
| Solidified Inorganic Material | 0.0E+00                      | 0.0E+00                                | 0.0E+00 |
| Cement (Solidified)           | 7.7E+00                      | 0.0E+00                                | 7.7E+00 |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                                | 0.0E+00 |
| Solidified Organic Material   | 1.2E+01                      | 0.0E+00                                | 1.2E+01 |
| Soil                          | 0.0E+00                      | 0.0E+00                                | 0.0E+00 |

<sup>1</sup> See pages 28 and 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-17. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Heterogeneous  $Debris^1$ 

**Final Waste Form:** 

**Heterogeneous Debris** 

|  | TRU Wast  | te Site Volu | imes (m <sup>3</sup> ) |           |         |         |                    |
|--|-----------|--------------|------------------------|-----------|---------|---------|--------------------|
|  | TWBIR -   | TWBIR        | TWBIR -                | TWBIR     | TWBIR - | TWBIR   |                    |
|  | 2004      | Rev. 2       | 2004                   | Rev. 2    | 2004    | Rev. 2  | Total              |
| Site   | Stored    | Stored       | Projected              | Projected | Total   | Total   | Diff. <sup>2</sup> |
| Argonne National Laboratory - East   | 1.5E+01   | 0.0E+00      | 1.0E+02                | 0.0E+00   | 1.2E+02 | 0.0E+00 | 1.2E+02            |
| Argonne National Laboratory - West   | 6.2E+00   | 0.0E+00      | 3.6E+01                | 1.2E+03   | 4.3E+01 | 1.2E+03 | -1.2E+03           |
| Battelle Columbus Laboratories   | 0.0E+00   | 5.8E+02      | 0.0E+00                | 0.0E+00   | 0.0E+00 | 5.8E+02 | -5.8E+02           |
| Bettis Atomic Power Laboratory   | 2.0E+00   | 0.0E+00      | 0.0E+00                | 6.7E+00   | 2.0E+00 | 6.7E+00 | -4.7E+00           |
| Energy Technology Engineering Center   | 8.9E-01   | 0.0E+00      | 0.0E+00                | 0.0E+00   | 8.9E-01 | 0.0E+00 | 8.9E-01            |
| Hanford (Richland-RL)  | 2.6E+02   | 2.0E+02      | 3.8E+02                | 4.1E+03   | 6.5E+02 | 4.3E+03 | -3.7E+03           |
| Idaho National Laboratory  | 2.0E+02   | 5.0E+01      | 0.0E+00                | 0.0E+00   | 2.0E+02 | 5.0E+01 | 1.5E+02            |
| Knolls Atomic Power Laboratory -<br>Schenectady  | 0.0E+00   | 0.0E+00      | 1.4E+02                | 0.0E+00   | 1.4E+02 | 0.0E+00 | 1.4E+02            |
| Los Alamos National Laboratory   | 1.2E+02   | 1.2E+01      | 0.0E+00                | 0.0E+00   | 1.2E+02 | 1.2E+01 | 1.1E+02            |
| Oak Ridge National Laboratory  | 0.0E+00   | 1.4E+03      | 2.7E+02                | 2.4E+02   | 2.7E+02 | 1.7E+03 | -1.4E+03           |
| Sandia National Laboratories - Albuquerqu  | e 4.6E+00 | 0.0E+00      | 0.0E+00                | 0.0E+00   | 4.6E+00 | 0.0E+00 | 4.6E+00            |
| Savannah River Site  | 0.0E+00   | 0.0E+00      | 2.3E+01                | 0.0E+00   | 2.3E+01 | 0.0E+00 | 2.3E+01            |
| TRU Waste Site Total   | 6.1E+02   | 2.3E+03      | 9.5E+02                | 5.5E+03   | 1.6E+03 | 7.8E+03 | -6.3E+03           |
|  |           |              |                        |           |         |         |                    |
| Waste Material Parameters  TWBIR - 2004 Density (kg/m³) TWBIR Rev. 2 Density (kg/m³) Difference (kg/m³)² |           |              |                        |           |         |         |                    |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference<br>(kg/m³)² |
|-------------------------------|------------------------------|------------------------------|------------------------|
| Iron Base Metal/Alloys        | 1.7E+02                      | 1.8E+02                      | -1.0E+01               |
| Aluminum Base Metal/Alloys    | 2.2E+01                      | 2.4E+01                      | -2.0-1.5E+00           |
| Other Metal/Alloys            | 4.5E+01                      | 1.4E+01                      | 3.1E+01                |
| Other Inorganic Material      | 1.7E+01                      | 1.9E+02                      | -1.7E+02               |
| Cellulosic Material           | 4.2E+01                      | 5.7E+01                      | -1.6E+01               |
| Rubber Material               | 3.0E+01                      | 1.0E+01                      | 2.0E+01                |
| Plastic Material              | 3.5E+01                      | 4.9E+01                      | -1.5E+01               |
| Solidified Inorganic Material | 5.6E+00                      | 9.0E+00                      | -3.4E+00               |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Solidified Organic Material   | 2.6E+00                      | 2.9E+00                      | -3.1E-01               |
| Soil                          | 7.0E+01                      | 3.5E+00                      | 6.7E+01                |

<sup>1</sup> See pages 28 and 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-18. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Inorganic Non-Metal  $^1$ 

Final Waste Form: Inorganic Non-Metal

| TRU Waste Site Volumes (m³)        |              |                 |              |                 |              |                 |                          |  |  |  |
|------------------------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------------------|--|--|--|
|                                    | TWBIR - 2004 | TWBIR<br>Rev. 2 | TWBIR – 2004 | TWBIR<br>Rev. 2 | TWBIR - 2004 | TWBIR<br>Rev. 2 |                          |  |  |  |
| Site                               | Stored       | Stored          | Projected    | Projected       | Total        | Total           | Total Diff. <sup>2</sup> |  |  |  |
| Argonne National Laboratory - West | 0.0E+00      | 0.0E+00         | 0.0E+00      | 2.1E+01         | 0.0E+00      | 2.1E+01         | -2.1E+01                 |  |  |  |
| Battelle Columbus Laboratories     | 1.4E+01      | 0.0E+00         | 8.9E-01      | 0.0E+00         | 1.5E+01      | 0.0E+00         | 1.5E+01                  |  |  |  |
| Hanford (Richland-RL)              | 2.8E+01      | 0.0E+00         | 4.3E+01      | 0.0E+00         | 7.1E+01      | 0.0E+00         | 7.1E+01                  |  |  |  |
| Idaho National Laboratory          | 0.0E+00      | 4.6E+01         | 0.0E+00      | 0.0E+00         | 0.0E+00      | 4.6E+01         | -4.6E+01                 |  |  |  |
| TRU Waste Site Total               | 4.3E+01      | 4.6E+01         | 4.4E+01      | 2.1E+01         | 8.6E+01      | 6.8E+01         | 1.9E+01                  |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 1.6E+02                      | 9.0E-01                      | 1.6E+02             |
| Aluminum Base Metal/Alloys    | 2.1E+01                      | 0.0E+00                      | 2.1E+01             |
| Other Metal/Alloys            | 4.8E+01                      | 1.0E-01                      | 4.8E+01             |
| Other Inorganic Material      | 9.9E+02                      | 5.6E+01                      | 9.3E+02             |
| Cellulosic Material           | 3.9E+00                      | 6.1E+00                      | -2.2E+00            |
| Rubber Material               | 1.8E+00                      | 2.0E-01                      | 1.6E+00             |
| Plastic Material              | 2.4E+01                      | 3.8E+00                      | 2.0E+01             |
| Solidified Inorganic Material | 1.5E+01                      | 4.0E-01                      | 1.5E+01             |
| Cement (Solidified)           | 3.1E+00                      | 0.0E+00                      | 3.1E+00             |
| Vitrified Material            | 0.0E+00                      | 1.9E+03                      | -1.9E+03            |
| Solidified Organic Material   | 2.8E-01                      | 0.0E+00                      | 2.8E-01             |
| Soil                          | 7.1E+00                      | 0.0E+00                      | 7.1E+00             |

<sup>1</sup> See pages 28 and 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

# Table B.1-19. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Lead/Cadmium $Metal^1$

Final Waste Form: Lead/Cadmium Metal

| TRU Waste Site Volumes (m <sup>3</sup> )    |         |         |           |           |         |         |                          |  |  |  |
|---|---------|---------|-----------|-----------|---------|---------|--------------------------|--|--|--|
|   | TWBIR - | TWBIR   | TWBIR -   | TWBIR     | TWBIR - | TWBIR   |                          |  |  |  |
|   | 2004    | Rev. 2  | 2004      | Rev. 2    | 2004    | Rev. 2  |                          |  |  |  |
| Site  | Stored  | Stored  | Projected | Projected | Total   | Total   | Total Diff. <sup>2</sup> |  |  |  |
| Argonne National Laboratory - West          | 0.0E+00 | 0.0E+00 | 0.0E+00   | 6.2E+00   | 0.0E+00 | 6.2E+00 | -6.20E+00                |  |  |  |
| <b>Energy Technology Engineering Center</b> | 0.0E+00 | 8.9E-01 | 0.0E+00   | 0.0E+00   | 0.0E+00 | 8.9E-01 | -8.90E-01                |  |  |  |
| Hanford (Richland-RL)                       | 1.2E+01 | 2.7E+00 | 7.1E+00   | 6.1E+01   | 1.9E+01 | 6.3E+01 | -4.40E+01                |  |  |  |
| Idaho National Laboratory                   | 0.0E+00 | 3.6E+00 | 0.0E+00   | 0.0E+00   | 0.0E+00 | 3.6E+00 | -3.60E+00                |  |  |  |
| TRU Waste Site Total                        | 1.2E+01 | 7.1E+00 | 7.1E+00   | 6.7E+01   | 1.9E+01 | 7.4E+01 | -5.5E+01                 |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 5.4E+03                      | 2.4E+01                      | 5.4E+03             |
| Aluminum Base Metal/Alloys    | 0.0E+00                      | 2.1E+00                      | -2.1E+00            |
| Other Metal/Alloys            | 7.4E+01                      | 5.1E+02                      | -4.4E+02            |
| Other Inorganic Material      | 0.0E+00                      | 1.4E+00                      | -1.4E+00            |
| Cellulosic Material           | 0.0E+00                      | 5.0E-01                      | -5.0E-01            |
| Rubber Material               | 0.0E+00                      | 1.9E+00                      | -1.9E+00            |
| Plastic Material              | 0.0E+00                      | 2.8E+00                      | -2.8E+00            |
| Solidified Inorganic Material | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Organic Material   | 0.0E+00                      | 5.0E+00                      | -5.0E+00            |
| Soil                          | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |

See pages 28 and 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

# Table B.1-20. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — $\mathrm{Soil}^1$

Final Waste Form: Soil

| TRU Waste Site Volumes (m <sup>3</sup> )   |         |         |           |           |         |         |                    |  |
|--|---------|---------|-----------|-----------|---------|---------|--------------------|--|
| TWBIR - 2004         TWBIR - Rev. 2         TWBIR - TWBIR - Rev. 2         TWBIR - Rev. 2         TOTAL |         |         |           |           |         |         |                    |  |
| Site   | Stored  | Stored  | Projected | Projected | Total   | Total   | Diff. <sup>2</sup> |  |
| Oak Ridge National Laboratory  | 0.0E+00 | 0.0E+00 | 2.0E+02   | 0.0E+00   | 2.0E+02 | 0.0E+00 | 2.0E+02            |  |
| TRU Waste Site Total   | 0.0E+00 | 0.0E+00 | 2.0E+02   | 0.0E+00   | 2.0E+02 | 0.0E+00 | 2.0E+02            |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference (kg/m³)² |
|-------------------------------|------------------------------|------------------------------|---------------------|
| Iron Base Metal/Alloys        | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Aluminum Base Metal/Alloys    | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Other Metal/Alloys            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Other Inorganic Material      | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Cellulosic Material           | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Rubber Material               | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Plastic Material              | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Inorganic Material | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Cement (Solidified)           | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Solidified Organic Material   | 0.0E+00                      | 0.0E+00                      | 0.0E+00             |
| Soil                          | 1.3E+03                      | 0.0E+00                      | 1.3E+03             |

<sup>1</sup> See pages 28 and 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-21. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Solidified Inorganic Material<sup>1</sup>

Final Waste Form: Solidified Inorganic Material

| TRU Waste Site Volumes (m³)        |              |                 |                 |                 |              |                 |                          |  |  |  |  |
|------------------------------------|--------------|-----------------|-----------------|-----------------|--------------|-----------------|--------------------------|--|--|--|--|
|                                    | TWBIR - 2004 | TWBIR<br>Rev. 2 | TWBIR –<br>2004 | TWBIR<br>Rev. 2 | TWBIR - 2004 | TWBIR<br>Rev. 2 |                          |  |  |  |  |
| Site                               | Stored       | Stored          | Projected       | Projected       | Total        | Total           | Total Diff. <sup>2</sup> |  |  |  |  |
| Argonne National Laboratory - West | 1.6E+01      | 1.8E+00         | 2.3E+01         | 2.8E+01         | 3.9E+01      | 3.0E+01         | 9.0E+00                  |  |  |  |  |
| Battelle Columbus Laboratories     | 1.8E+00      | 0.0E+00         | 0.0E+00         | 0.0E+00         | 1.8E+00      | 0.0E+00         | 1.8E+00                  |  |  |  |  |
| Hanford (Richland-RL)              | 1.5E+01      | 0.0E+00         | 1.2E+02         | 0.0E+00         | 1.3E+02      | 0.0E+00         | 1.3E+02                  |  |  |  |  |
| Hanford (River Protection-RP)      | 4.5E+03      | 0.0E+00         | 0.0E+00         | 0.0E+00         | 4.5E+03      | 0.0E+00         | 4.5E+03                  |  |  |  |  |
| Idaho National Laboratory          | 8.9E-01      | 6.5E+01         | 0.0E+00         | 0.0E+00         | 8.9E-01      | 6.5E+01         | -6.4E+01                 |  |  |  |  |
| Oak Ridge National Laboratory      | 0.0E+00      | 1.0E+03         | 1.9E+02         | 2.1E+02         | 1.9E+02      | 1.2E+03         | -1.0E+03                 |  |  |  |  |
| TRU Waste Site Total               | 4.5E+03      | 1.1E+03         | 3.3E+02         | 2.4E+02         | 4.8E+03      | 1.3E+03         | 3.6E+03                  |  |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m <sup>3</sup> ) | Difference (kg/m³)² |
|-------------------------------|------------------------------|---|---------------------|
| Iron Base Metal/Alloys        | 6.8E+00                      | 3.8E+00                                   | 3.0E+00             |
| Aluminum Base Metal/Alloys    | 0.0E+00                      | 0.0E+00                                   | 0.0E+00             |
| Other Metal/Alloys            | 3.4E-02                      | 1.0E-01                                   | -6.6E-02            |
| Other Inorganic Material      | 6.9E-01                      | 2.7E+00                                   | -2.0E+00            |
| Cellulosic Material           | 3.5E-03                      | 0.0E+00                                   | 3.5E-03             |
| Rubber Material               | 0.0E+00                      | 0.0E+00                                   | 0.0E+00             |
| Plastic Material              | 1.6E-02                      | 3.0E-01                                   | -2.8E-01            |
| Solidified Inorganic Material | 9.2E+01                      | 3.9E+02                                   | -3.0E+02            |
| Cement (Solidified)           | 2.4E+00                      | 3.9E+02                                   | -3.9E+02            |
| Vitrified Material            | 1.8E-01                      | 7.0E-01                                   | -5.2E-01            |
| Solidified Organic Material   | 3.1E-02                      | 0.0E+00                                   | 3.1E-02             |
| Soil                          | 4.1E-03                      | 0.0E+00                                   | 4.1E-03             |

<sup>1</sup> See pages 28 and 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

# Table B.1-22. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Solidified Organic Material $^1$

Final Waste Form: Solidified Organic Material

| TRU Waste Site Volumes (m³)             |              |                 |              |                 |              |                 |                          |  |  |  |
|---|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------------------|--|--|--|
| G!                                      | TWBIR - 2004 | TWBIR<br>Rev. 2 | TWBIR - 2004 | TWBIR<br>Rev. 2 | TWBIR - 2004 | TWBIR<br>Rev. 2 | T 1 D ee 2               |  |  |  |
| Site                                    | Stored       | Stored          | Projected    | Projected       | Total        | Total           | Total Diff. <sup>2</sup> |  |  |  |
| Battelle Columbus Laboratories          | 5.3E+00      | 0.0E+00         | 0.0E+00      | 0.0E+00         | 5.3E+00      | 0.0E+00         | 5.3E+00                  |  |  |  |
| Energy Technology Engineering<br>Center | 4.1E+00      | 0.0E+00         | 0.0E+00      | 0.0E+00         | 4.1E+00      | 0.0E+00         | 4.1E+00                  |  |  |  |
| Idaho National Laboratory               | 0.0E+00      | 3.6E+00         | 0.0E+00      | 0.0E+00         | 0.0E+00      | 3.6E+00         | -3.6E+00                 |  |  |  |
| TRU Waste Site Total                    | 9.5E+00      | 3.6E+00         | 0.0E+00      | 0.0E+00         | 9.5E+00      | 3.6E+00         | 5.8E+00                  |  |  |  |

| Waste Material Parameters     | TWBIR - 2004 Density (kg/m³) | TWBIR Rev. 2 Density (kg/m³) | Difference<br>(kg/m³)² |
|-------------------------------|------------------------------|------------------------------|------------------------|
| Iron Base Metal/Alloys        | 4.9E+01                      | 3.0E-01                      | 4.9E+01                |
| Aluminum Base Metal/Alloys    | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Other Metal/Alloys            | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Other Inorganic Material      | 1.2E+01                      | 1.2E+02                      | -1.1E+02               |
| Cellulosic Material           | 2.0E+01                      | 3.0E-01                      | 2.0E+01                |
| Rubber Material               | 4.2E+00                      | 0.0E+00                      | 4.2E+00                |
| Plastic Material              | 2.0E+01                      | 6.7E+00                      | 1.3E+01                |
| Solidified Inorganic Material | 0.0E+00                      | 2.1E+01                      | -2.1E+01               |
| Cement (Solidified)           | 1.4E+02                      | 1.3E+02                      | 1.0E+01                |
| Vitrified Material            | 0.0E+00                      | 0.0E+00                      | 0.0E+00                |
| Solidified Organic Material   | 1.7E+02                      | 6.1E+02                      | -4.4E+02               |
| Soil                          | 0.0E+00                      | 2.0E-01                      | -2.0E-01               |

<sup>1</sup> See pages 28 and 29 for discussion.

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

# Table B.1-23. WIPP RH-TRU Waste Profile Differences Between TWBIR - 2004 and TWBIR Revision 2 — Uncategorized $Metal^1$

Final Waste Form: Uncategorized Metal

| TRU Waste Site Volumes (m³)             |                   |                   |                      |                      |                      |                  |  |  |  |
|---|-------------------|-------------------|----------------------|----------------------|----------------------|------------------|--|--|--|
| au.                                     | TWBIR - 2004      | TWBIR<br>Rev. 2   | TWBIR - 2004         | TWBIR<br>Rev. 2      | TWBIR - 2004         | TWBIR<br>Rev. 2  | T 1 D100 2                               |  |  |
| Site Argonne National Laboratory - West | Stored<br>0.0E+00 | Stored<br>1.8E+01 | Projected<br>0.0E+00 | Projected<br>0.0E+00 | <b>Total</b> 0.0E+00 | Total<br>1.8E+01 | <b>Total Diff.</b> <sup>2</sup> -1.8E+01 |  |  |
| Battelle Columbus Laboratories          | 8.9E-01           | 0.0E+00           | 0.0E+00              | 0.0E+00              | 8.9E-01              | 0.0E+00          | 8.9E-01                                  |  |  |
| Hanford (Richland-RL)                   | 6.1E+01           | 0.0E+00           | 5.4E+02              | 1.7E+04              | 6.0E+02              | 1.7E+04          | -1.6E+04                                 |  |  |
| Idaho National Laboratory               | 2.2E+01           | 3.1E+01           | 0.0E+00              | 0.0E+001             | 2.2E+01              | 3.1E+01          | -9.0E+00                                 |  |  |
| Los Alamos National Laboratory          | 0.0E+00           | 6.8E+01           | 0.0E+00              | 5.0E+01              | 0.0E+00              | 1.2E+02          | -1.2E+02                                 |  |  |
| TRU Waste Site Total                    | 8.4E+01           | 1.2E+02           | 5.4E+02              | 1.7E+04              | 6.2E+02              | 1.8E+04          | -1.7E+04                                 |  |  |

| TV                            | TWDID 2004 D                              | TYPID D 2 D 24 (1 - 4 - 3)                | Difference   |
|-------------------------------|---|---|--------------|
| Waste Material Parameters     | TWBIR - 2004 Density (kg/m <sup>3</sup> ) | TWBIR Rev. 2 Density (kg/m <sup>3</sup> ) | $(kg/m^3)^2$ |
| Iron Base Metal/Alloys        | 3.6E+01                                   | 7.5E+01                                   | -3.9E+01     |
| Aluminum Base Metal/Alloys    | 4.5E-03                                   | 4.0E-01                                   | -4.0E-01     |
| Other Metal/Alloys            | 5.6E+02                                   | 3.8E+02                                   | 1.8E+02      |
| Other Inorganic Material      | 4.3E-01                                   | 1.5E+01                                   | -1.5E+01     |
| Cellulosic Material           | 7.4E-01                                   | 8.0E-01                                   | -6.0E-02     |
| Rubber Material               | 5.1E-01                                   | 0.0E+00                                   | 5.1E-01      |
| Plastic Material              | 7.8E-01                                   | 5.0E-01                                   | 2.8E-01      |
| Solidified Inorganic Material | 3.1E-02                                   | 0.0E+00                                   | 3.1E-02      |
| Cement (Solidified)           | 0.0E+00                                   | 0.0E+00                                   | 0.0E+00      |
| Vitrified Material            | 0.0E+00                                   | 0.0E+00                                   | 0.0E+00      |
| Solidified Organic Material   | 0.0E+00                                   | 0.0E+00                                   | 0.0E+00      |
| Soil                          | 6.1E-01                                   | 0.0E+00                                   | 6.1E-01      |

<sup>1</sup> See pages 28 and 29 for discussion.

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<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

The increased volume (1.4E+04 m<sup>3</sup>) of heterogeneous debris from INL was due to the anticipated start-up of the Advanced Mixed Waste Treatment Facility (AMWTF) and the inclusion of INL pre-1970 waste streams. For the AMWTF, INL combined many waste streams into one new waste stream called IN-BN-510. The final waste form of this waste stream is heterogeneous debris. At the time of the PABC, it was assumed this waste stream would be compacted so that an average of four 55-gallon drums will fit into one 100-gallon drum. A large volume (6.9E+03 m<sup>3</sup>) of heterogeneous debris waste from SRS originates from the "FB" and "HB" process lines (CCP 2003a, 2003b, 2003c, and 2003d). The LANL waste streams that contribute to the increased heterogeneous debris waste volume (3.5E+03 m<sup>3</sup>) originate primarily from waste generated during facility and equipment operations and maintenance. RFETS added heterogeneous debris waste (2.2E+03 m<sup>3</sup>) consisting of construction rubble, blacktop, concrete, dirt, and sand due primarily to decontamination and decommissioning operations. The remaining sites listed in Table B.1-7 with positive overall changes contributed additional volumes of less than 5.0E+02 m<sup>3</sup> each. The emplaced volume for heterogeneous debris was 5.7E+02 m<sup>3</sup> as of the inventory date. The sites that subtracted significant heterogeneous debris volumes are Hanford RL, with a decrease of 4.0E+03 m<sup>3</sup>, and Oak Ridge National Laboratory (ORNL), with a decrease of 1.1E+03 m<sup>3</sup>.

The overall increase in volume for solidified inorganic material is 3.4E+04 m³. Some sites added volume and some removed volume (see Table B.1-12). The sites that added solidified inorganic material volume are INL (3.4E+04 m³) and Hanford RP (3.9E+03 m³). The increased volume of solidified inorganic material from INL is due primarily to solidified sludges from treatment plants and other processes, such as ion exchange and the addition of the pre-1970 waste streams. The increased volume of solidified inorganic material from Hanford RP is due to the inclusion of tank sludges to the inventory. The sites that removed significant solidified inorganics volume are LANL (2.2E+03 m³) and SRS (1.4E+03 m³). The emplaced volume for this solidified inorganic material was 3.3E+03 m³ as of the inventory date, September 30, 2002.

The overall increase in volume for solidified organic material is 4.3E+03 m<sup>3</sup>. INL added significant solidified organic material volume, with 3.9E+03 m<sup>3</sup> (see Table B.1-13). This increased volume is primarily due to the inclusion of the pre-1970 waste streams. There was no emplaced volume for solidified organic material as of the inventory date, September 30, 2002.

The overall increase in volume for inorganic non-metal is 7.7E+03 m<sup>3</sup>. The site that added significant inorganic non-metal volume is INL, with 8.0E+03 m<sup>3</sup> (see Table B.1-8). The emplaced volume for inorganic non-metal was 9.7E+02 m<sup>3</sup> as of the inventory date, September 30, 2002.

The overall increase in volume for filter material is  $1.3E+03~\text{m}^3$ . The site adding significant filter material volume is LLNL, with  $5.9E+02~\text{m}^3$  (see Table B.1-5). The emplaced volume for filter material was  $3.4E+02~\text{m}^3$  as of the inventory date, September 30, 2002.

The overall decrease in volume for salt waste is 1.4E+01 m<sup>3</sup>. RFETS removed significant salt waste volume, with 3.1E+02 m<sup>3</sup> (see Table B.1-10) from the site. The emplaced volume for salt waste was 1.5E+03 m<sup>3</sup> as of the inventory date, September 30, 2002.

The overall decrease in volume for uncategorized metal is 2.7E+04 m<sup>3</sup>. The sites that removed significant uncategorized metal volume were Hanford RL with 1.6E+04 m<sup>3</sup>, LANL with 5.6E+03 m<sup>3</sup>, and INL with 5.9E+03 m<sup>3</sup> (see Table B.1-14). The emplaced volume for uncategorized metal was 3.6E+02 m<sup>3</sup> as of the inventory date, September 30, 2002.

The overall decrease in volume for combustible material is 4.2E+03 m<sup>3</sup>. The sites that removed significant volume were Hanford RL with 1.6E+03 m<sup>3</sup>, and INL with 3.3E+03 m<sup>3</sup> (see Table B.1-4). The emplaced volume for combustible material was 6.1E+02 m<sup>3</sup> as of the inventory date, September 30, 2002.

# **B-1.5** Analysis of RH-TRU Waste Volume Differences by Site

Table B.1-2 compares the stored, projected, and anticipated RH-TRU waste volumes between the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) inventories by site and gives the total RH-TRU waste volumes.

The total difference in stored RH-TRU waste at the sites is 1.7E+03 m³, or about a 47 percent increase from the TWBIR Revision 2 (DOE 1995) inventory. The bulk of this additional stored volume came from Hanford RP (4.5E+03 m³), Knolls Atomic Power Laboratory (KAPL) (1.4E+02 m³), and Argonne National Laboratory-East (ANL-E) (1.2E+02 m³). As with CH-TRU waste, the sites adjusted their existing inventory data for RH-TRU waste volumes based on new information [since the TWBIR Revision 2 (DOE 1995) inventory] about the waste and/or increased accessibility to the waste. The Hanford RP waste was recently added to the inventory. Argonne National Laboratory - East, (ANL-E), BAPL, and Sandia National Laboratories (SNL) have added small volumes of stored RH-TRU waste to the inventory that were not previously reported. ORNL transferred all RH-TRU waste stored volume to projected waste volume because they plan to process the waste using segregation, compaction, size reduction, and evaporative drying for sludge (see Appendix C).

The total projected RH-TRU waste volume has decreased by 2.2E+04 m<sup>3</sup>, or about a 92 percent decrease from the TWBIR Revision 2 (DOE 1995) inventory. The largest decrease in projected RH-TRU waste volume is 2.1E+04 m<sup>3</sup> reported by Hanford RL. This change is based on the site gaining better knowledge of the waste streams and thus managing the waste differently.

The anticipated RH-TRU waste is simply the sum of the stored and projected wastes. It follows that the overall change is a decrease of 2.0E+04 m<sup>3</sup>, or a 74 percent decrease for the anticipated volumes. There was no emplaced waste volume as of the inventory date, September 30, 2002.

#### **B-1.6** RH-TRU Waste Volumes by Final Waste Form by Site

Five of the nine RH-TRU waste final waste form total volumes increased (filter material, inorganic non-metal, soil, solidified inorganic material, and solidified organic material). Of these, the solidified inorganic material volume had the largest increase of 3.6E+03 m<sup>3</sup>. The filter material, soil, and solidified organic material increased by 2.0E+02 m<sup>3</sup> or less.

Four of the nine RH-TRU final waste form total volumes decreased (heterogeneous debris, combustible material, lead/cadmium metal, and uncategorized metal). These decreases ranged

from 6.6E+01 m<sup>3</sup> or less for combustible material and lead/cadmium metal to 1.7E+04 m<sup>3</sup> for uncategorized metal.

The overall increase in volume for RH-TRU waste solidified inorganic material is 3.6E+03 m<sup>3</sup>. Some sites added volume and some removed volume (see Table B.1-21). The sites that added significant volume were Hanford RP (4.5E+03 m<sup>3</sup>) and Hanford RL (1.3E+02 m<sup>3</sup>). The site that decreased significantly in volume was ORNL (1.0E+03 m<sup>3</sup>).

The overall decrease in volume for RH-TRU waste uncategorized metal is  $1.7E+04~\text{m}^3$ . The site that removed significant uncategorized metal volume is Hanford RL with  $1.6E+04~\text{m}^3$  (see Table B.1-23). The decreased volume from Hanford RL is primarily due to reassignment of the waste to more appropriate final waste forms based on new characterization information.

# B-2.0 WASTE MATERIAL PARAMETERS AND CONTAINER MATERIALS ESTIMATES

Tables B.1-24 and B.1-25 compare WMP densities for the WIPP roll-ups from the TWBIR Revision 2 (DOE 1995) with the TWBIR - 2004 WMP densities from TWBID Revision 2.1 (LANL 2005) for CH-TRU and RH-TRU waste, respectively. These tables also show, in the last column, the difference between TWBIR Revision 2 WMP densities from the TWBIR - 2004 WMP densities. These tables, unlike Tables B.1-4 through B.1-23, contain the rolled-up values for the container (also referred to as packaging) materials. One of the container materials given in Table B.1-25 is "Steel Plug." "N/A," indicating "not applicable," has been entered for the TWBIR - 2004 container material value and the difference value. The steel plugs are added by WIPP Waste Handling Operations (WHO) at the WIPP facility and are addressed in Section 3.5 of the report.

A detailed comparison of the TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) volume estimates is provided in Section B-1.0. However, because volume is a factor in the comparison of TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) WMP densities, it is also considered here.

The TWBIR - 2004 and TWBIR Revision 2 (DOE 1995) information in Tables B.1-4 through B.1-25 was analyzed for differences in volume and WMP densities, as applicable. The volume estimates for each final waste form for CH-TRU waste (Table B.1-4 through Table B.1-14) and the volume estimates for each final waste form for RH-TRU waste (from Table B.1-15 through Table B.1-23) are discussed in Section B.1.0. The WMP estimates for each final waste form and for the WIPP roll-up (Table B.1-24 and Table B.1-25) are discussed here. Finally, the differences in the waste container material densities are addressed.

The iron-based metal/alloys, cellulosic, rubber, and plastic (CPR) materials, and cement (solidified) WMPs impact gas generation within the WIPP. The EPA Compliance Certification Decision (EPA 1998) therefore sets limits for these WMPs. The collective limit for CPR materials in the WIPP is dependent upon emplaced inventory. The limits are discussed in CRA-2004 (DOE 2004), Chapter 4, Table 4-11. Because of the maximum limit on the CPR materials, particular attention is paid to the increases in these WMPs. The total CPR materials density for

the TWBIR Revision 2 (DOE 1995) inventory was 98 kg/m³ (see Table B.1-24) and the TWBIR - 2004 total is 116 kg/m³ (see Table B.1-24). It is therefore important to understand the basis of these increases. These are discussed in Section B.2.1 for CH-TRU waste and in Section B.2.2 for RH-TRU waste.

The repository limit for the ferrous metals is 2.0E+07 (20 million) kg, and 2.0E+03 (2 thousand) kg for nonferrous metals. According to the Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (DOE 2004), these minimum limits are met in the total repository inventory by the metals that constitute the payload containers. Container materials are discussed in Sections B.2.3 and B.2.4.

## **B-2.1** Analysis of CH-TRU Waste Material Parameter Differences

Analysis of the twelve WMPs in the TWBIR Revision 2 (DOE 1995) and TWBIR - 2004 for CH-TRU waste shows that seven of the WMP densities increased, and five of them decreased in density (see Table B.1-24). Decreases were noted in iron-based metal/alloys, aluminum-based metal/alloys, other metal/alloys, cement (solidified), and vitrified material. The densities of the other inorganic materials, CPR materials, solidified inorganic material, soils, and solidified organic material all increased.

Of particular interest are the increases in the densities of CPR materials of  $6.0 \text{ kg/m}^3$  for cellulosic material,  $9.0 \text{ kg/m}^3$  for plastic material, and  $3.0 \text{ kg/m}^3$  for rubber material. An analysis of the CPR materials for CH TRU waste in the roll-ups by final waste form (Tables B.1-4 through B.1-14) show that there are increases in the densities of CPR materials for soil ( $15 \text{ kg/m}^3$  cellulose), solidified organics ( $110 \text{ kg/m}^3$  plastic) and heterogeneous debris (34, 13, and  $11 \text{ kg/m}^3$ , cellulose, plastic and rubber, respectively). In addition, the density of plastic material increased by  $10.0 \text{ kg/m}^3$  for filter material. Finally, the density of cellulosic material increased by  $81 \text{ kg/m}^3$  and the density of plastic material increased by  $17 \text{ kg/m}^3$  for graphite. There are other increases in the densities of the CPR materials, but these increases are all less than  $10 \text{ kg/m}^3$ , and will not be specifically addressed here.

Heterogeneous debris had the largest increases in the CPR materials densities. The primary cause of these increases is the combined waste stream at the INL, IN-BN-510, Supercompacted Debris Waste. The densities for the CPR materials WMPs are 303, 205, and 80 kg/m³, respectively, for this waste stream (LANL 2005). The densities of CPR materials are high because of the nature of the treatment of this waste stream, and because INL combined approximately 200 heterogeneous debris waste streams to produce this single waste stream (see the waste stream crosswalk in Appendix C). The INL is treating the waste at the AMWTF and has the capability of supercompacting 55-gallon drums containing CH-TRU waste. The compacted drums are then placed in one 100-gallon drum for shipment to the WIPP.

Solidified organic and graphite final waste forms had the next largest increases in cellulosic and plastic material densities. The largest contributors to solidified organic disposition are INL and RFETS. The only contributions to graphite came from RFETS in the TWBIR - 2004.

Table B.1-24. Differences in Waste Material Parameter Densities (kg/m³) for CH-TRU Waste Between TWBIR - 2004 and TWBIR Revision 2<sup>1</sup>

| Waste Material Parameters     | TWBIR - 2004<br>(kg/m³) | TWBIR Rev. 2 (kg/m³) | Difference (kg/m³)² |
|-------------------------------|-------------------------|----------------------|---------------------|
| Iron-Based Metal/Alloys       | 1.1E+02                 | 1.7E+02              | -6.0E+01            |
| Aluminum-Based Metal/Alloys   | 1.4E+01                 | 1.8E+01              | -4.0E+00            |
| Other Metal/Alloys            | 3.2E+01                 | 6.7E+01              | -3.5E+01            |
| Other Inorganic Material      | 4.0E+01                 | 3.1E+01              | 9.0E+00             |
| Cellulosic Material           | 6.0E+01                 | 5.4E+01              | 6.0E+00             |
| Rubber Material               | 1.3E+01                 | 1.0E+01              | 3.0E+00             |
| Plastic Material              | 4.3E+01                 | 3.4E+01              | 9.0E+00             |
| Solidified Inorganic Material | 1.1E+02                 | 5.4E+01              | 5.6E+01             |
| Cement (Solidified)           | 3.9E+01                 | 5.0E+01              | -1.1E+01            |
| Vitrified                     | 5.8E+00                 | 5.5E+01              | -4.9E+01            |
| Solidified Organic Material   | 3.3E+01                 | 5.6E+00              | 2.7E+01             |
| Soil                          | 1.1E+02                 | 4.4E+01              | 6.6E+01             |
|                               |                         |                      |                     |
| Container Materials           |                         |                      |                     |
| Steel                         | 1.7E+02                 | 1.4E+02              | 2.9E+01             |
| Plastic                       | 1.7E+01                 | 2.6E+01              | -9.0E+00            |
| Lead                          | 1.3E-02                 | N/A                  | N/A                 |

<sup>1</sup> See pages 29 and 30 for discussion.

### **B-2.2** Analysis of RH-TRU Waste Material Parameter Differences

Analysis of the 12 WMPs in the TWBIR Revision 2 (DOE 1995) and TWBIR - 2004 RH-TRU waste show that 9 of 12 WMPs decreased in density (see Table B.1-25). Decreases were noted in the iron-based metal/alloys, aluminum-based metal/alloys, other metal/alloys, other inorganic materials, cellulosic and plastic materials, cement (solidified), vitrified, and solidified organic material. The densities of the rubber material, solidified inorganic material, and soil increased.

Although the densities of RH-TRU waste cellulosic and plastic materials decreased overall (Table B.1-25), an analysis of the CPR materials in the roll-ups by final waste form (Tables B.1-15 through B.1-23) show that there are increases in the densities of cellulosic and plastic materials in some of the final waste forms. The densities of cellulosic material increased in the filter material and solidified organic material (by 73 and 20 kg/m³, respectively). There is an increase in the rubber material for filter material (19 kg/m³).

<sup>2</sup> Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

Table B.1-25. Difference on Waste Material Parameter Densities (kg/m³) for RH-TRU Waste Between TWBIR - 2004 and TWBIR Revision 2<sup>1</sup>

| Waste Material Parameters     | TWBIR - 2004<br>(kg/m <sup>3</sup> ) | TWBIR Rev. 2 (kg/m³) | Difference (kg/m³)² |
|-------------------------------|--------------------------------------|----------------------|---------------------|
| Iron-Base Metal/Alloys        | 5.9E+01                              | 1.0E+02              | -4.1E+01            |
| Aluminum-Based Metal/Alloys   | 5.0E+00                              | 7.1E+00              | -2.1E+00            |
| Other Metal/Alloys            | 5.7E+01                              | 2.5E+02              | -1.9E+02            |
| Other Inorganic Material      | 1.6E+01                              | 6.4E+01              | -4.8E+01            |
| Cellulosic Material           | 9.3E+00                              | 1.7E+01              | -7.7E+00            |
| Rubber Material               | 6.7E+00                              | 3.3E+00              | 3.4E+00             |
| Plastic Material              | 8.0E+00                              | 1.5E+01              | -7.0E+00            |
| Solidified Inorganic Material | 6.2E+01                              | 2.2E+01              | 4.0E+01             |
| Cement (Solidified)           | 1.9E+00                              | 1.9E+01              | -1.7E+01            |
| Vitrified                     | 1.2E-01                              | 4.7E+00              | -4.6E+00            |
| Solidified Organic Material   | 8.3E-01                              | 9.3E-01              | -1.0E+01            |
| Soil                          | 5.0E+01                              | 1.0E+00              | 4.9E+01             |
| Container Materials           |                                      |                      |                     |
| Steel                         | 5.4E+02                              | 4.5E+02              | 9.0E+01             |
| Plastic                       | 3.1E+00                              | 3.1E+00              | -4.8E-02            |
| Lead                          | 4.2E+02                              | 4.7E+02              | -5.0E+01            |
| Steel Plug                    | N/A                                  | 2.1E+03              | N/A                 |

<sup>1</sup> See pages 31 and 32 for discussion.

Finally, the density of plastic increased in the combustible material, inorganic non-metal, and solidified organic material (by 85, 20, and  $13 \text{ kg/m}^3$ , respectively). The remaining increases in the densities of the CPR materials are less than  $10 \text{ kg/m}^3$  each.

# **B-2.3** Analysis of CH-TRU Waste Container Materials

The container materials for CH-TRU waste are steel, plastic, and lead. Table B.1-24 indicates that the density of steel increased from  $140 \text{ kg/m}^3$  to  $170 \text{ kg/m}^3$ , and the density of plastic decreased from  $26 \text{ kg/m}^3$  to  $17 \text{ kg/m}^3$ .

Two significant changes in the inventory contributed to the increase in the density of steel container materials. First, a review of the TWBIR Revision 2 database (DOE 1995) reveals that the sites did not intend to use pipe over-pack components (POCs) at that time, and hence none were reported in the database. The supporting database for the TWBIR - 2004, the TWBID Revision 2.1 (LANL 2005), indicates that LANL, RFETS, and Hanford RL will use the POCs. In fact, RFETS has shipped waste from seven waste streams using POCs, and these are now emplaced in the WIPP. The difference in the density of steel between the 55-gallon drum (131 kg/m³ [see Table 27 of the main body of this report]) and the RH-TRU waste container POCs (525 kg/m³, as reported by RFETS) is approximately 394 kg/m³. There are currently 56 waste streams for which the sites have indicated POCs will be used. These are shown below in Table

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Some numbers represented on this table have been rounded in the TWBID Revision 2.1 (LANL 2005) database prior to reporting.

B.1-26, along with seven waste streams that were emplaced in the WIPP as of the inventory date, September 30, 2002.

Second, the INL super-compacted debris waste stream (IN-BN-510) will have an average of four compacted 55-gallon drums in each 100-gallon drum. The steel comprising the 55-gallon drums falls into the iron-based metal/alloys WMP and the steel comprising the 100-gallon drums is steel container material for this waste stream. The typical value for a 55-gallon drum is 131 kg/m³, and the typical value for a 100-gallon drum is 114 kg/m³, as provided in Section 3.2.2 (see Table 27 of the main body of this report). The container/packaging materials for this waste stream are discussed in Appendix D, Section 3.3.1.

## **B-2.4** Analysis of RH-TRU Waste Container Materials

The RH-TRU waste container materials are steel, plastic, lead, and steel plug. The steel waste container material increased by 90 kg/m³. The plastic and lead waste container materials decreased (by approximately less than 1 and 50 kg/m³, respectively). The steel plug is actually supplied by the Waste Handling Operations group at the WIPP and is not reported by the sites in the current inventory, as it is not part of the shipped package. The density for the steel plug was, however, reported in the TWBIR Revision 2 (DOE 1995) inventory.

Table B.1-26. Waste Streams Shipped and to be Shipped in POCs to the WIPP

| Site  | Waste Stream | Site  | Waste Stream | Site       | Waste Stream |
|-------|--------------|-------|--------------|------------|--------------|
| LANL  | LA-OS-00-01  | RFETS | RF-MT0532E   | RFETS      | RF-TT391P    |
| RFETS | RF-MT0090    | RFETS | RF-MT0532F   | RFETS      | RF-TT391P    |
| RFETS | RF-MT0091    | RFETS | RF-MT0541    | RFETS      | RF-TT392P    |
| RFETS | RF-MT0092    | RFETS | RF-MT0H61    | RFETS      | RF-TT393R    |
| RFETS | RF-MT0093    | RFETS | RF-MT3011    | RFETS      | RF-TT394P    |
| RFETS | RF-MT0097    | RFETS | RF-MT420P    | RFETS      | RF-TT395P    |
| RFETS | RF-MT0290    | RFETS | RF-MT532A    | RFETS      | RF-TT398P    |
| RFETS | RF-MT-0292   | RFETS | RF-MT532B    | RFETS      | RF-TT398R    |
| RFETS | RF-MT0299    | RFETS | RF-MT532C    | RFETS      | RF-TT411R    |
| RFETS | RF-MT0320    | RFETS | RF-MT532D    | RFETS      | RF-TT429R    |
| RFETS | RF-MT0371    | RFETS | RF-TT0300    | RFETS      | RF-TT433x    |
| RFETS | RF-MT0373    | RFETS | RF-TT0310    | RFETS      | RF-TT436R    |
| RFETS | RF-MT0377    | RFETS | RF-TT0312    | RFETS      | RF-TT454x    |
| RFETS | RF-MT0419    | RFETS | RF-TT0340    | Hanford RL | RL-W756      |
| RFETS | RF-MT0423    | RFETS | RF-TT0368    | WIPP       | WP-RF003.01  |
| RFETS | RF-MT0444    | RFETS | RF-TT0370    | WIPP       | WP-RF005.01  |
| RFETS | RF-MT0523A   | RFETS | RF-TT0440    | WIPP       | WP-RF005.02  |
| RFETS | RF-MT0523B   | RFETS | RF-TT0442    | WIPP       | WP-RF006.01  |
| RFETS | RF-MT0523C   | RFETS | RF-TT0601    | WIPP       | WP-RF008.01  |
| RFETS | RF-MT0523D   | RFETS | RF-TT310P    | WIPP       | WP-RF009.01  |
| RFETS | RF-MT0523E   | RFETS | RF-TT390P    | WIPP       | WP-RF118.01  |

#### **B-3.0 RADIONUCLIDE ESTIMATES**

A comparison of Table 3-1 from TWBIR Revision 3 (DOE 1996) (WIPP Disposal Radionuclide *Inventory for the CCA*) to the data reported in Section 3.3.3, Table 37 of the main body of this report (WIPP Disposal Radionuclide Inventory for the CRA) is contained in Table B.1-27 for CH-TRU waste and Table B.1-28 for RH-TRU waste. The radionuclide values from TWBIR Revision 3 were decayed through 1995 as the base year and have not been further decayed, but are reported as they were in Revision 3. The values for short-lived radionuclides would have decreased over the six-year interval if no change in the inventory occurred since the CCA. The values from TWBID Revision 2.1 (LANL 2005) are decayed through 2001 (December 31, 2001) as the base year. A review of the results for CH-TRU waste indicates that the overall activity for all radionuclides has decreased by nearly 25 percent. Four of the radionuclides with the five highest activity concentrations decreased in activity between 15 and 55 percent, while <sup>241</sup>Am increased in activity by 9.1 percent. The results for RH-TRU waste are not as consistent, with substantial variations in individual radionuclide activity, and an overall increase in activity of about 60 percent. Based on total curies, the five most abundant CH-TRU waste isotopes in the TWBIR Revision 3, <sup>241</sup>Am, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, and <sup>241</sup>Pu, are the most abundant in the TWBIR -2004 (see bottom of Table B.1-27). For RH-TRU waste, the five most abundant isotopes in the TWBIR Revision 3, <sup>137m</sup>Ba, <sup>137</sup>Cs, <sup>241</sup>Pu, <sup>90</sup>Sr, and <sup>90</sup>Y, are still the most abundant in the TWBIR - 2004 report (see bottom of Table B.1-28).

Table B.1-27. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, CH TRU Waste

| Radionuclide                   | CH-TRU Waste<br>Curies, Decayed<br>through 2001 | CH-TRU Waste<br>Curies, Decayed<br>through 1995 | Delta (Ci) | Percent<br>Change |
|--------------------------------|---|---|------------|-------------------|
| <sup>225</sup> Ac              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01          |
| <sup>227</sup> Ac              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.0E+01          |
| <sup>228</sup> Ac              | 1.8E+00   | 7.5E-01   | 1.0E+00    | 1.4E+02           |
| <sup>109m</sup> Ag             | 1.3E-04   | 1.6E+01   | -1.6E+01   | -1.0E+02          |
| <sup>110</sup> Ag              | 3.1E-11   | 7.1E-09   | -7.0E-09   | -1.0E+02          |
| <sup>110m</sup> Ag             | 2.4E-09   | 5.3E-07   | -5.3E-07   | -1.0E+02          |
| <sup>241</sup> Am <sup>1</sup> | 4.8E+05   | 4.4E+05   | 4.0E+04    | 9.1E+00           |
| <sup>242</sup> Am              | 4.7E-02   | 1.8E+00   | -1.7E+00   | -9.7E+01          |
| <sup>242m</sup> Am             | 4.8E-02   | 1.8E+00   | -1.7E+00   | -9.7E+01          |
| <sup>243</sup> Am              | 7.8E+01   | 3.3E+01   | 4.5E+01    | 1.4E+02           |
| <sup>245</sup> Am              | 9.4E-11   | 1.3E-09   | -1.2E-09   | -9.3E+01          |
| <sup>217</sup> At              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01          |
| <sup>137m</sup> Ba             | 6.9E+03   | 7.6E+03   | -7.0E+02   | -9.2E+00          |
| <sup>210</sup> Bi              | 1.9E+00   | 2.6E+00   | -7.0E-01   | -2.7E+01          |
| <sup>211</sup> Bi              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01          |
| <sup>212</sup> Bi              | 2.8E+00   | 2.7E+01   | -2.4E+01   | -9.0E+01          |
| <sup>213</sup> Bi              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01          |
| <sup>214</sup> Bi              | 4.6E+00   | 1.2E+01   | -7.4E+00   | -6.1E+01          |
| <sup>249</sup> Bk              | 6.5E-06   | 9.2E-05   | -8.5E-05   | -9.3E+01          |
| <sup>250</sup> Bk              | 2.6E-12   | 4.4E-11   | -4.1E-11   | -9.4E+01          |
| <sup>14</sup> C                | 1.2E+00   | 1.1E+01   | -9.8E+00   | -8.9E+01          |
| <sup>109</sup> Cd              | 1.3E-04   | 1.6E+01   | -1.6E+01   | -1.0E+02          |
| <sup>113m</sup> Cd             | NR*   | 1.8E-06   | 0.0E+00    | 0.0E+00           |
| <sup>141</sup> Ce              | NR*   | $NR^*$  | 0.0E+00    | 0.0E+00           |
| <sup>144</sup> Ce              | 3.6E-04   | 6.3E-02   | -6.2E-02   | -9.9E+01          |
| <sup>249</sup> Cf              | 5.8E-02   | 6.4E-02   | -6.0E-03   | -9.4E+00          |
| <sup>250</sup> Cf              | 1.7E-01   | 3.3E-01   | -1.6E-01   | -4.8E+01          |
| <sup>251</sup> Cf              | 2.6E-04   | 3.8E-03   | -3.5E-03   | -9.3E+01          |
| <sup>252</sup> Cf              | 1.7E-01   | 2.4E+00   | -2.3E+00   | -9.3E+01          |
| <sup>242</sup> Cm              | 3.9E-02   | 1.1E+00   | -1.1E+00   | -9.7E+01          |
| <sup>243</sup> Cm              | 4.0E-01   | 2.7E+00   | -2.3E+00   | -8.5E+01          |

Table B.1-27. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, CH TRU Waste – Continued

|                   | <b>2001, C1</b> .                               | i iku wasie – (                                 | Jonanaca   |                |
|-------------------|---|---|------------|----------------|
| Radionuclide      | CH-TRU Waste<br>Curies, Decayed<br>through 2001 | CH-TRU Waste<br>Curies, Decayed<br>through 1995 | Delta (Ci) | Percent Change |
| <sup>244</sup> Cm | 6.2E+03   | 3.2E+04   | -2.5E+04   | -8.0E+01       |
| <sup>245</sup> Cm | 6.0E-03   | 1.2E-02   | -6.0E-03   | -5.0E+01       |
| <sup>246</sup> Cm | 1.1E+00   | 1.0E-01   | 1.0E+00    | 1.0E+03        |
| <sup>247</sup> Cm | 2.0E-10   | 3.2E-09   | -3.0E-09   | -9.4E+01       |
| <sup>248</sup> Cm | 6.5E-02   | 9.0E-02   | -3.5E-02   | -2.8E+01       |
| <sup>250</sup> Cm | 4.7E-11   | NR*   | 0.0E+00    | 0.0E+00        |
| <sup>58</sup> Co  | NR*   | 3.1E-13   | 0.0E+00    | 0.0E+00        |
| <sup>60</sup> Co  | 9.8E-01   | 6.5E+01   | -6.4E+01   | -9.8E+01       |
| 51Cr              | 9.8E-01<br>NR*                                  | NR*   | 0.0E+00    | 0.0E+00        |
| 134Cs             | 2.0E-02   | 1.3E-02   |            | 5.4E+01        |
| 135Cs             | 2.0E-02<br>NR*                                  |   | 7.0E-03    |                |
| 137Cs             |   | 5.0E-04   | 0.0E+00    | 0.0E+00        |
| 254Es             | 7.4E+03   | 8.1E+03   | -7.0E+02   | -8.6E+00       |
|                   | NR*   | 4.2E-11   | 0.0E+00    | 0.0E+00        |
| <sup>150</sup> Eu | NR*   | 3.5E-05   | 0.0E+00    | 0.0E+00        |
| <sup>152</sup> Eu | 1.9E+00   | 1.3E+00   | 6.0E-01    | 4.6E+01        |
| <sup>154</sup> Eu | 1.6E+00   | 1.2E+00   | 4.0E-01    | 3.3E+01        |
| <sup>155</sup> Eu | 4.9E-02   | 9.5E-01   | 0.0E+00    | 0.0E+00        |
| <sup>55</sup> Fe  | NR*   | 1.9E-05   | 0.0E+00    | 0.0E+00        |
| <sup>59</sup> Fe  | NR*   | 2.6E-07   | 0.0E+00    | 0.0E+00        |
| <sup>221</sup> Fr | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01       |
| <sup>223</sup> Fr | 4.9E-03   | 8.4E-03   | -3.5E-03   | -4.1E+01       |
| <sup>152</sup> Gd | 4.3E-14   | NR*   | 0.0E+00    | 0.0E+00        |
| <sup>3</sup> H    | 2.2E+02   | 8.7E-01   | 2.2E+02    | 2.5E+04        |
| <sup>129</sup> I  | 5.1E-04   | 7.1E-07   | 5.1E-04    | 7.2E+04        |
| <sup>85</sup> Kr  | 4.6E-01   | 2.0E-01   | 2.6E-01    | 1.3E+02        |
| <sup>54</sup> Mn  | NR*   | 8.5E-04   | 0.0E+00    | 0.0E+00        |
| <sup>22</sup> Na  | 3.9E-07   | NR <sup>*</sup>                                 | 0.0E+00    | 0.0E+00        |
| <sup>93m</sup> Nb | NR*   | NR*   | 0.0E+00    | 0.0E+00        |
| <sup>95</sup> Nb  | NR*   | 2.5E-09   | 0.0E+00    | 0.0E+00        |
| <sup>95m</sup> Nb | NR*   | 8.5E-12   | 0.0E+00    | 0.0E+00        |
| <sup>59</sup> Ni  | 7.6E-02   | 7.5E-03   | 6.9E-02    | 9.2E+02        |
| <sup>63</sup> Ni  | 3.7E+00   | 9.2E-01   | 2.8E+00    | 3.0E+02        |
| <sup>237</sup> Np | 6.2E+00   | 5.6E+01   | -5.0E+01   | -8.9E+01       |

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Table B.1-27. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, CH TRU Waste – Continued

|                                | 2001, CF  | <u> ITRU Waste – C</u>                          | ontinuea   |                |
|--------------------------------|---|---|------------|----------------|
| Radionuclide                   | CH-TRU Waste<br>Curies, Decayed<br>through 2001 | CH-TRU Waste<br>Curies, Decayed<br>through 1995 | Delta (Ci) | Percent Change |
| <sup>238</sup> Np              | 2.4E-04   | 8.8E-03   | -8.5E-03   | -9.7E+01       |
| <sup>239</sup> Np              | 7.7E+01   | 3.3E+01   | 4.4E+01    | 1.4E+02        |
| <sup>240m</sup> Np             | 1.3E-06   | 1.5E-06   | -2.0E-07   | -1.3E+01       |
| <sup>231</sup> Pa              | 8.7E-01   | 4.5E-01   | 4.2E-01    | 9.2E+01        |
| <sup>233</sup> Pa              | 6.2E+00   | 5.6E+01   | -5.0E+01   | -8.9E+01       |
| <sup>234</sup> Pa              | 8.0E-02   | 5.1E-02   | 2.9E-02    | 5.7E+01        |
| <sup>234m</sup> Pa             | 6.1E+01   | 4.0E+01   | 2.2E+01    | 5.4E+01        |
| <sup>209</sup> Pb              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01       |
| <sup>210</sup> Pb              | 1.9E+00   | 2.6E+00   | -7.0E-01   | -2.7E+01       |
| <sup>211</sup> Pb              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01       |
| <sup>212</sup> Pb              | 2.8E+00   | 2.7E+01   | -2.4E+01   | -9.0E+01       |
| <sup>214</sup> Pb              | 4.6E+00   | 1.2E+01   | -7.4E+00   | -6.1E+01       |
| <sup>107</sup> Pd              | NR*   | 7.4E-05   | 0.0E+00    | 0.0E+00        |
| <sup>147</sup> Pm              | 1.8E+00   | 7.9E+00   | -6.1E+00   | -7.8E+01       |
| <sup>210</sup> Po              | 1.9E+00   | 2.6E+00   | -7.0E-01   | -2.6E+01       |
| <sup>211</sup> Po              | 1.1E-03   | 1.7E-03   | -6.0E-04   | -3.6E+01       |
| <sup>212</sup> Po              | 1.8E+00   | 1.7E+01   | -1.5E+01   | -9.0E+01       |
| <sup>213</sup> Po              | 1.3E+00   | 2.8E+00   | -1.5E+00   | -5.3E+01       |
| <sup>214</sup> Po              | 4.6E+00   | 1.2E+01   | -7.4E+00   | -6.3E+01       |
| <sup>215</sup> Po              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01       |
| <sup>216</sup> Po              | 2.8E+00   | 2.7E+01   | -2.4E+01   | -9.0E+01       |
| <sup>218</sup> Po              | 4.5E+00   | 1.2E+01   | -7.5E+00   | -6.3E+01       |
| <sup>144</sup> Pr              | 3.5E-04   | 6.2E-02   | -6.1E-02   | -9.9E+01       |
| <sup>236</sup> Pu              | 3.3E-03   | 1.0E-02   | -6.7E-03   | -6.8E+01       |
| $^{238}$ Pu $^{1}$             | 1.5E+06   | 2.6E+06   | -1.2E+06   | -4.2E+01       |
| <sup>239</sup> Pu <sup>1</sup> | 5.8E+05   | 7.9E+05   | -2.1E+05   | -2.6E+01       |
| <sup>240</sup> Pu <sup>1</sup> | 9.4E+04   | 2.1E+05   | -1.2E+05   | -5.5E+01       |
| <sup>241</sup> Pu <sup>1</sup> | 2.0E+06   | 2.3E+06   | -3.0E+05   | -1.3E+01       |
| <sup>242</sup> Pu              | 1.2E+01   | 1.2E+03   | -1.2E+03   | -9.9E+01       |
| <sup>243</sup> Pu              | 2.0E-10   | 3.2E-09   | -3.0E-09   | -9.4E+01       |
| <sup>244</sup> Pu              | 1.2E-06   | 1.5E-06   | -2.6E-07   | -2.0E+01       |
| <sup>223</sup> Ra              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01       |
| <sup>224</sup> Ra              | 2.8E+00   | 2.7E+01   | -2.4E+01   | -9.0E+01       |
| <sup>225</sup> Ra              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01       |

Table B.1-27. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, CH TRU Waste – Continued

| 2001, CH TRU Waste – Continued |   |   |            |                |
|--------------------------------|---|---|------------|----------------|
| Radionuclide                   | CH-TRU Waste<br>Curies, Decayed<br>through 2001 | CH-TRU Waste<br>Curies, Decayed<br>through 1995 | Delta (Ci) | Percent Change |
| <sup>226</sup> Ra              | 4.6E+00   | 1.2E+01   | -7.4E+00   | -6.2E+01       |
| <sup>228</sup> Ra              | 2.1E+00   | 7.5E-01   | 1.4E+00    | 1.8E+02        |
| <sup>106</sup> Rh              | 1.4E-04   | 2.9E-02   | -2.9E-02   | -1.0E+02       |
| <sup>219</sup> Rn              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01       |
| <sup>220</sup> Rn              | 2.8E+00   | 2.7E+01   | -2.4E+01   | -9.0E+01       |
| <sup>222</sup> Rn              | 4.6E+00   | 1.2E+01   | -7.4E+00   | -6.2E+01       |
| <sup>106</sup> Ru              | 1.5E-04   | 2.9E-02   | -2.9E-02   | -1.0E+02       |
| <sup>125</sup> Sb              | 3.6E-03   | 1.2E-01   | -1.2E-01   | -9.7E+01       |
| <sup>126</sup> Sb              | NR*   | 1.4E-04   | 0.0E+00    | 0.0E+00        |
| 126mSb                         | NR*   | 9.7E-04   | 0.0E+00    | 0.0E+00        |
| <sup>79</sup> Se               | 1.3E-04   | 4.4E-04   | -3.0E-04   | -7.0E+01       |
| <sup>147</sup> Sm              | 3.5E-10   | NR*   | 0.0E+00    | 0.0E+00        |
| <sup>151</sup> Sm              | 5.7E+01   | 1.5E+00   | 5.5E+01    | 3.8E+03        |
| <sup>119m</sup> Sn             | NR*   | 4.1E-06   | 0.0E+00    | 0.0E+00        |
| <sup>121m</sup> Sn             | NR*   | 2.7E-02   | 0.0E+00    | 0.0E+00        |
| <sup>126</sup> Sn              | NR*   | 9.7E-04   | 0.0E+00    | 0.0E+00        |
| <sup>90</sup> Sr               | 5.6E+04   | 6.9E+03   | 4.9E+04    | 7.2E+02        |
| <sup>182</sup> Ta              | NR*   | NR <sup>*</sup>                                 | 0.0E+00    | 0.0E+00        |
| <sup>99</sup> Tc               | 1.5E+02   | 2.5E+01   | 1.2E+02    | 4.8E+02        |
| <sup>123</sup> Te              | 4.8E-05   | NR <sup>*</sup>                                 | 0.0E+00    | 0.0E+00        |
| <sup>123m</sup> Te             | 3.6E-19   | NR <sup>*</sup>                                 | 0.0E+00    | 0.0E+00        |
| <sup>125m</sup> Te             | 8.7E-04   | 3.0E-02   | -2.9E-02   | -9.7E+01       |
| <sup>127</sup> Te              | NR*   | 1.3E-07   | 0.0E+00    | 0.0E+00        |
| <sup>127m</sup> Te             | NR*   | 1.3E-07   | 0.0E+00    | 0.0E+00        |
| <sup>227</sup> Th              | 3.5E-01   | 6.0E-01   | -2.5E-01   | -4.1E+01       |
| <sup>228</sup> Th              | 2.9E+00   | 2.7E+01   | -2.4E+01   | -8.9E+01       |
| <sup>229</sup> Th              | 1.4E+00   | 2.9E+00   | -1.5E+00   | -5.3E+01       |
| <sup>230</sup> Th              | 9.5E-02   | 8.1E-02   | 1.5E-02    | 1.8E+01        |
| <sup>231</sup> Th              | 2.9E+00   | 1.3E+01   | -9.9E+00   | -7.7E+01       |
| <sup>232</sup> Th              | 2.5E+00   | 9.1E-01   | 1.6E+00    | 1.7E+02        |
| <sup>234</sup> Th              | 6.1E+01   | 4.0E+01   | 2.2E+01    | 5.5E+01        |
| <sup>207</sup> Tl              | 3.6E-01   | 6.1E-01   | -2.5E-01   | -4.1E+01       |
| <sup>208</sup> Tl              | 1.0E+00   | 9.7E+00   | -8.7E+00   | -9.0E+01       |
| <sup>209</sup> Tl              | 3.0E-02   | 6.2E-02   | -3.2E-02   | -5.2E+01       |

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Table B.1-27. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, CH TRU Waste – Continued

| Radionuclide     | CH-TRU Waste<br>Curies, Decayed<br>through 2001 | CH-TRU Waste<br>Curies, Decayed<br>through 1995 | Delta (Ci) | Percent Change |
|------------------|---|---|------------|----------------|
| <sup>232</sup> U | 1.3E+00   | 2.6E+01   | -2.5E+01   | -9.5E+01       |
| <sup>233</sup> U | 1.1E+03   | 1.8E+03   | -7.0E+02   | -3.9E+01       |
| <sup>234</sup> U | 2.0E+02   | 4.7E+02   | -2.7E+02   | -5.8E+01       |
| <sup>235</sup> U | 3.9E+00   | 1.3E+01   | -9.1+00    | -7.0E+01       |
| <sup>236</sup> U | 1.5E+00   | 3.3E-01   | 1.1E+00    | 3.4E+02        |
| <sup>237</sup> U | 2.1E+01   | 5.7E+01   | -3.6E+01   | -6.4E+01       |
| <sup>238</sup> U | 7.9E+01   | 4.0E+01   | 3.9E+01    | 1.0E+02        |
| <sup>240</sup> U | 1.2E-06   | 1.5E-06   | -3.0E-07   | -2.0E+01       |
| <sup>90</sup> Y  | 5.6E+04   | 6.9E+03   | 4.9E+04    | 7.2E+02        |
| <sup>91</sup> Y  | NR*   | NR <sup>*</sup>                                 | 0.00E+00   | 0.0E+00        |
| <sup>65</sup> Zn | 1.7E-10   | NR <sup>*</sup>                                 | 0.00E+00   | 0.0E+00        |
| <sup>93</sup> Zr | 1.1E-03   | 5.6E-03   | -4.5E-03   | -8.0E+01       |
| <sup>95</sup> Zr | NR*   | 1.2E-09   | 0.00E+00   | 0.0E+00        |
| Total:           | 4.7E+06   | 6.4E+06   | -1.6E+06   | -2.5E+01       |

<sup>\*</sup>NR = Not Reported.

Source: TWBID Revision 2.1 (LANL 2005) Data Version D.4.16.

<sup>&</sup>lt;sup>1</sup> Most abundant CH radionuclides are <sup>241</sup>Am, <sup>241</sup>Pu, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, <sup>241</sup>Pu with 97 percent of the activity (4.6E+06 Ci).

Table B.1-28. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, RH TRU  ${\bf Waste}^1$ 

| Radionuclide                    | RH-TRU Waste Curies,<br>Decayed through 2001 | RH-TRU Waste<br>Curies, 1995 | Delta (Ci) | Percent<br>Change |
|---------------------------------|--|------------------------------|------------|-------------------|
| <sup>225</sup> Ac               | 1.8E-01                                      | 1.2E+01                      | -1.2E+01   | -9.8E+01          |
| <sup>227</sup> Ac               | 2.0E-05                                      | 7.6E-04                      | -7.4E-04   | -9.7E+01          |
| <sup>228</sup> Ac               | 7.2E-01                                      | 7.8E-02                      | 6.4E-01    | 8.2E+02           |
| <sup>109m</sup> Ag              | NR*  | NR*                          | 0.0E+00    | 0.0E+00           |
| <sup>110</sup> Ag               | 9.6E-11                                      | 1.7E-09                      | -1.6E-09   | -9.4E+01          |
| <sup>110m</sup> Ag              | 7.3E-09                                      | 1.3E-07                      | -1.2E-07   | -9.4E+01          |
| <sup>241</sup> Am               | 1.4E+04                                      | 6.0E+03                      | 8.0E+03    | 1.3E+02           |
| <sup>242</sup> Am               | 4.3E-03                                      | NR*                          | 0.0E+00    | 0.0E+00           |
| <sup>242m</sup> Am              | 2.1E-01                                      | NR*                          | 0.0E+00    | 0.0E+00           |
| <sup>243</sup> Am               | 9.9E-01                                      | 2.3E-04                      | 9.9E-01    | 4.3E+05           |
| <sup>245</sup> Am               | NR*  | 2.9E-16                      | 0.0E+00    | 0.0E+00           |
| <sup>217</sup> At               | 1.9E-01                                      | 1.2E-01                      | 7.0E-02    | 5.8E+01           |
| <sup>137m</sup> Ba <sup>1</sup> | 3.9E+05                                      | 2.0E+05                      | 1.9E+05    | 9.5E+01           |
| <sup>210</sup> Bi               | 1.1E-06                                      | 7.2E-06                      | -6.1E-06   | -8.5E+01          |
| <sup>211</sup> Bi               | 1.9E-05                                      | 7.6E-04                      | -7.4E-04   | -9.7E+01          |
| <sup>212</sup> Bi               | 1.4E+01                                      | 7.4E-02                      | 1.3E+01    | 1.8E+04           |
| <sup>213</sup> Bi               | 1.8E-01                                      | 1.2E-01                      | 6.0E-02    | 5.0E+01           |
| <sup>214</sup> Bi               | 6.8E-06                                      | 3.6E-05                      | -2.9E-05   | -8.1E+01          |
| <sup>249</sup> Bk               | NR*  | 2.0E-11                      | 0.0E+00    | 0.0E+00           |
| $^{250}$ Bk                     | NR*  | NR <sup>*</sup>              | 0.0E+00    | 0.0E+00           |
| <sup>14</sup> C                 | 1.2E+00                                      | 2.1E+00                      | -9.0E-01   | -4.3E+01          |
| <sup>109</sup> Cd               | NR*  | NR <sup>*</sup>              | 0.0E+00    | 0.0E+00           |
| <sup>113m</sup> Cd              | 5.2E-01                                      | 5.5E-07                      | 5.2E-01    | 9.5E+07           |
| <sup>141</sup> Ce               | 4.2E-19                                      | NR <sup>*</sup>              | 0.0E+00    | 0.0E+00           |
| <sup>144</sup> Ce               | 6.4E+00                                      | 5.1E+00                      | 1.3E+00    | 2.5E+01           |
| <sup>249</sup> Cf               | 4.2E-03                                      | 4.5E-03                      | -3.0E-04   | -6.7E+00          |
| <sup>250</sup> Cf               | 7.5E-02                                      | NR <sup>*</sup>              | 0.0E+00    | 0.0E+00           |
| <sup>251</sup> Cf               | 8.0E-04                                      | NR*                          | 0.0E+00    | 0.0E+00           |
| <sup>252</sup> Cf               | 8.9E-02                                      | 1.3E+00                      | -1.2E+00   | -9.3E+01          |
| <sup>242</sup> Cm               | 3.6E-03                                      | NR*                          | 0.0E+00    | 0.0E+00           |
| <sup>243</sup> Cm               | 5.1E-01                                      | 5.0E+01                      | -4.9E+01   | -9.9E+01          |
| <sup>244</sup> Cm               | 1.1E+03                                      | 3.2E+02                      | 7.8E+02    | 2.5E+02           |
| <sup>245</sup> Cm               | 1.1E-02                                      | 1.5E-06                      | 1.1E-02    | 7.3E+05           |

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Table B.1-28. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, RH TRU Waste<sup>1</sup> - Continued

| 2001, RH 1RU Waste - Continued  RH-TRU |  |                       |            |                   |
|--|--|-----------------------|------------|-------------------|
| Radionuclide                           | RH-TRU Waste Curies,<br>Decayed through 2001 | Waste<br>Curies, 1995 | Delta (Ci) | Percent<br>Change |
| <sup>246</sup> Cm 3.4E+00              |  | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>247</sup> Cm                      |  | NR*                   |            |                   |
| 248Cm                                  | 4.7E+01                                      |                       | 0.0E+00    | 0.0E+00           |
| <sup>250</sup> Cm                      | 9.2E-03<br>NR*                               | 2.1E-04               | 9.0E-03    | 4.4E+03           |
| <sup>58</sup> Co                       |  | NR*                   | 0.0E+00    | 0.0E+00           |
|  | NR*  | 1.2E-11               | 0.0E+00    | 0.0E+00           |
| <sup>60</sup> Co                       | 1.8E+03                                      | 1.0E+04               | -8.2E+03   | -8.3E+01          |
| <sup>51</sup> Cr                       | NR*  | 3.0E-06               | 0.0E+00    | 0.0E+00           |
| <sup>134</sup> Cs                      | 1.1E+02                                      | 1.8E+01               | 9.1E+01    | 5.1E+02           |
| <sup>135</sup> Cs                      | 3.5E-04                                      | 1.2E-04               | 2.3E-04    | 2.0E+02           |
| <sup>137</sup> Cs <sup>1</sup>         | 4.3E+05                                      | 2.2E+05               | 2.1E+05    | 9.5E+01           |
| <sup>254</sup> Es                      | NR <sup>*</sup>                              | NR <sup>*</sup>       | 0.0E+00    | 0.0E+00           |
| <sup>150</sup> Eu                      | NR*  | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>152</sup> Eu                      | 2.4E+03                                      | 1.2E+03               | 1.1E+03    | 1.0E+02           |
| <sup>154</sup> Eu                      | 1.1E+03                                      | 5.9E+02               | 5.1E+02    | 8.6E+01           |
| <sup>155</sup> Eu                      | 3.5E+02                                      | 1.2E+02               | 2.3E+02    | 2.0E+02           |
| <sup>55</sup> Fe                       | 1.3E-01                                      | 1.7E-01               | -4.0E-02   | -2.4E+01          |
| <sup>59</sup> Fe                       | NR*  | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>221</sup> Fr                      | 1.8E-01                                      | 1.2E-01               | 6.0E-02    | 5.0E+01           |
| <sup>223</sup> Fr                      | 2.7E-07                                      | 1.0E-05               | -9.7E-05   | -9.7E+01          |
| <sup>152</sup> Gd                      | 9.8E-11                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>3</sup> H                         | 2.3E-01                                      | 6.6E-02               | 1.6E-01    | 2.5E+02           |
| $^{129}{ m I}$                         | 8.2E-02                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>85</sup> Kr                       | 3.6E-01                                      | 1.7E+00               | -1.3E+00   | -7.9E+01          |
| <sup>54</sup> Mn                       | 2.0E+00                                      | 2.4E-02               | 2.0E+00    | 8.2E+03           |
| <sup>22</sup> Na                       | 3.3E-01                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>93m</sup> Nb                      | 9.1E-04                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>95</sup> Nb                       | 2.2E-13                                      | 6.7E-01               | -6.7E-01   | -1.0E+02          |
| <sup>95m</sup> Nb                      | 7.2E-16                                      | 2.2E-03               | -2.2E-03   | -1.0E+02          |
| <sup>59</sup> Ni                       | 2.3E+01                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>63</sup> Ni                       | 1.1E+03                                      | 9.9E-01               | 1.1E+03    | 1.1E+05           |
| <sup>237</sup> Np                      | 6.7E-01                                      | 2.9E+00               | -2.2E+00   | -7.6E+01          |
| <sup>238</sup> Np                      | 2.2E-05                                      | NR*                   | 0.0E+00    | 0.0E+00           |
| <sup>239</sup> Np                      | 3.2E-01                                      | 2.3E-04               | 3.1E-01    | 1.4E+05           |

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Table B.1-28. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, RH TRU Waste<sup>1</sup> - Continued

| 2001, RH TRU Waste <sup>1</sup> - Continued |  |                                 |            |                   |
|---|--|---------------------------------|------------|-------------------|
| Radionuclide                                | RH-TRU Waste Curies,<br>Decayed through 2001 | RH-TRU<br>Waste<br>Curies, 1995 | Delta (Ci) | Percent<br>Change |
| <sup>240m</sup> Np                          | 5.6E-03                                      | 2.2E-11                         | 5.6E-03    | 2.5E+10           |
| <sup>231</sup> Pa                           | 8.7E-05                                      | 1.9E-03                         | -1.8E-03   | -9.5E+01          |
| <sup>233</sup> Pa                           | 6.3E-03                                      | 2.9E+00                         | -2.8E+00   | -1.0E+02          |
| <sup>234</sup> Pa                           | 1.4E-02                                      | 1.4E-02                         | 0.0E+00    | 0.0E+00           |
| <sup>234m</sup> Pa                          | 1.1E+01                                      | 1.1E+01                         | 0.0E+00    | 0.0E+00           |
| <sup>209</sup> Pb                           | 1.8E-01                                      | 1.2E-01                         | 6.0E-02    | 5.0E+01           |
| <sup>210</sup> Pb                           | 1.1E-06                                      | 7.2E-06                         | -6.1E-06   | -8.5E+01          |
| <sup>211</sup> Pb                           | 2.0E-05                                      | 7.6E-04                         | -7.4E-04   | -9.7E+01          |
| <sup>212</sup> Pb                           | 1.4E+01                                      | 7.4E-02                         | 1.3E+01    | 1.8E+04           |
| <sup>214</sup> Pb                           | 6.8E-06                                      | 3.6E-05                         | -2.9E-05   | -8.1E+01          |
| <sup>107</sup> Pd                           | 1.5E-05                                      | 1.7E-05                         | -2.0E-06   | -1.2E+01          |
| <sup>147</sup> Pm                           | 6.1E+02                                      | 1.1E+01                         | 6.0E+02    | 5.4E+03           |
| <sup>210</sup> Po                           | 1.1E-06                                      | 7.2E-06                         | -6.1E-06   | -8.5E+01          |
| <sup>211</sup> Po                           | 5.9E-08                                      | 2.1E-06                         | -2.1E-06   | -9.7E+01          |
| <sup>212</sup> Po                           | 8.6E+00                                      | 4.7E-02                         | 8.6E+00    | 1.8E+04           |
| <sup>213</sup> Po                           | 1.8E-01                                      | 1.2E-01                         | 6.0E-02    | 5.0E+01           |
| <sup>214</sup> Po                           | 6.8E-06                                      | 3.6E-05                         | -2.9E-05   | -8.1E+01          |
| <sup>215</sup> Po                           | 2.0E-05                                      | 7.6E-04                         | -7.4E-04   | -9.7E+01          |
| <sup>216</sup> Po                           | 1.4E+01                                      | 7.4E-02                         | 1.3E+01    | 1.8E+04           |
| <sup>218</sup> Po                           | 6.7E-06                                      | 3.6E-05                         | -2.9E-05   | -8.1E+01          |
| <sup>144</sup> Pr                           | 6.3E+00                                      | 5.1E+00                         | 1.2E+00    | 2.4E+01           |
| <sup>236</sup> Pu                           | NR*  | NR*                             | 0.0E+00    | 0.0E+00           |
| <sup>238</sup> Pu                           | 3.8E+03                                      | 1.5E+03                         | 2.4E+03    | 1.6E+02           |
| <sup>239</sup> Pu                           | 5.2E+03                                      | 1.0E+04                         | -4.8E+03   | -4.8E+01          |
| <sup>240</sup> Pu                           | 1.6E+03                                      | 5.1E+03                         | -3.5E+03   | -6.9E+01          |
| <sup>241</sup> Pu <sup>1</sup>              | 1.3E+05                                      | 1.4E+05                         | -1.0E+04   | -7.1E+00          |
| <sup>242</sup> Pu                           | 4.8E-01                                      | 1.5E-01                         | 3.3E-01    | 2.2E+02           |
| <sup>243</sup> Pu                           | 4.7E+01                                      | NR*                             | 0.0E+00    | 0.0E+00           |
| <sup>244</sup> Pu                           | 5.5E-03                                      | 2.2E-11                         | 5.5E-03    | 2.5E+10           |
| <sup>223</sup> Ra                           | 2.0E-05                                      | 7.6E-04                         | -7.4E-04   | -9.7E+01          |
| <sup>224</sup> Ra                           | 1.4E+01                                      | 7.4E-02                         | 1.3E+01    | 1.8E+04           |
| <sup>225</sup> Ra                           | 1.9E-01                                      | 1.2E-01                         | 7.0E-02    | 5.8E+01           |
| <sup>226</sup> Ra                           | 6.9E-06                                      | 3.6E-05                         | -2.9E-05   | -8.1E+01          |
| <sup>228</sup> Ra                           | 8.5E-01                                      | 7.8E-02                         | 7.7E-01    | 9.9E+02           |

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Table B.1-28. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, RH TRU Waste<sup>1</sup> - Continued

| 2001, RH 1RU waste - Continued  RH-TRU |                      |              |            |          |
|--|----------------------|--------------|------------|----------|
|  | RH-TRU Waste Curies, | Waste        |            | Percent  |
| Radionuclide                           | Decayed through 2001 | Curies, 1995 | Delta (Ci) | Change   |
| <sup>106</sup> Rh                      | 1.9E-03              | 1.1E+01      | -1.1E+01   | -1.0E+02 |
| <sup>219</sup> Rn                      | 1.9E-05              | 7.6E-04      | -7.4E-04   | -9.7E+01 |
| <sup>220</sup> Rn                      | 1.4E+01              | 7.4E-02      | 1.3E+01    | 1.8E+04  |
| <sup>222</sup> Rn                      | 6.8E-06              | 3.6E-05      | -2.9E-05   | -8.1E+01 |
| <sup>106</sup> Ru                      | 1.9E-03              | 1.1E+01      | -1.1E+01   | -1.0E+02 |
| <sup>125</sup> Sb                      | 4.9E+00              | 1.9E+00      | 3.0E+00    | 1.6E+02  |
| <sup>126</sup> Sb                      | 1.5E-04              | 3.2E-05      | 1.2E-04    | 3.7E+02  |
| <sup>126m</sup> Sb                     | 1.1E-03              | 2.3E-04      | 8.7E-04    | 3.8E+02  |
| <sup>79</sup> Se                       | 4.0E-02              | 1.0E-04      | 4.0E-02    | 3.9E+04  |
| <sup>147</sup> Sm                      | 3.2E-08              | NR           | 0.0E+00    | 0.0E+00  |
| <sup>151</sup> Sm                      | 6.0E+02              | 3.6E-01      | 6.0E+02    | 1.7E+05  |
| <sup>119m</sup> Sn                     | NR                   | 9.6E-07      | 0.0E+00    | 0.0E+00  |
| <sup>121m</sup> Sn                     | 2.6E-03              | 6.7E-03      | -4.1E-03   | -6.1E+01 |
| <sup>126</sup> Sn                      | 1.1E-03              | 2.3E-04      | 8.7E-04    | 3.8E+02  |
| $^{90}\mathrm{Sr}^1$                   | 3.2E+05              | 2.1E+05      | 1.1E+05    | 5.4E+01  |
| <sup>182</sup> Ta                      | NR                   | 4.2E-08      | 0.0E+00    | 0.0E+00  |
| <sup>99</sup> Tc                       | 1.6E+02              | 5.9E-03      | 1.6E+02    | 2.7E+06  |
| <sup>123</sup> Te                      | NR                   | NR           | 0.0E+00    | 0.0E+00  |
| <sup>123m</sup> Te                     | NR                   | NR           | 0.0E+00    | 0.0E+00  |
| <sup>125m</sup> Te                     | 1.2E+00              | 4.7E-01      | 7.2E-01    | 1.5E+02  |
| <sup>127</sup> Te                      | NR                   | 1.7E-09      | 0.0E+00    | 0.0E+00  |
| <sup>127m</sup> Te                     | NR                   | 1.8E-09      | 0.0E+00    | 0.0E+00  |
| <sup>227</sup> Th                      | 1.9E-05              | 7.5E-04      | -7.3E-04   | -9.7E+01 |
| <sup>228</sup> Th                      | 1.4E+01              | 7.4E-02      | 1.4E+01    | 1.9E+04  |
| <sup>229</sup> Th                      | 1.9E-01              | 1.2E-01      | 7.0E-02    | 5.8E+01  |
| <sup>230</sup> Th                      | 1.9E-03              | 7.6E-03      | -5.7E-03   | -7.5E+01 |
| <sup>231</sup> Th                      | 2.4E-01              | 4.6E+00      | -4.4E+00   | -9.5E+01 |
| <sup>232</sup> Th                      | 9.2E-01              | 9.3E-02      | 8.3E-01    | 8.9E+02  |
| <sup>234</sup> Th                      | 1.1E+01              | 1.1E+01      | 0.00E-01   | 0.0E+00  |
| <sup>207</sup> Tl                      | 1.9E-05              | 7.6E-04      | -7.4E-04   | -9.7E+01 |
| <sup>208</sup> Tl                      | 4.9E+00              | 2.7E-02      | 4.8E+00    | 1.8E+04  |
| <sup>209</sup> Tl                      | 4.1E-03              | 2.5E-03      | 1.5E-03    | 6.4E+01  |
| <sup>232</sup> U                       | 1.3E+01              | NR           | 0.0E+00    | 0.0E+00  |
| <sup>233</sup> U                       | 1.3E+02              | 1.6E+02      | -3.0E+01   | -1.9E+01 |

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Table B.1-28. WIPP Disposal Radionuclide Inventory Comparison, 1995 to 2001, RH TRU Waste<sup>1</sup> - Continued

|                  | 2001, 1011 1100 11                           | asic Contini                    |            |                   |
|------------------|--|---------------------------------|------------|-------------------|
| Radionuclide     | RH-TRU Waste Curies,<br>Decayed through 2001 | RH-TRU<br>Waste<br>Curies, 1995 | Delta (Ci) | Percent<br>Change |
| <sup>234</sup> U | 3.0E+01                                      | 4.3E+01                         | -1.3E+01   | -3.0E+01          |
| <sup>235</sup> U | 1.1E+00                                      | 4.6E+00                         | -3.5E+00   | -7.6E+01          |
| <sup>236</sup> U | 1.3E+00                                      | 9.7E-02                         | 1.2E+00    | 1.3E+03           |
| <sup>237</sup> U | 2.3E-02                                      | 3.5E+00                         | -3.5E+00   | -9.9E+01          |
| $^{238}U$        | 1.4E+02                                      | 1.1E+01                         | 1.3E+02    | 1.2E+03           |
| $^{240}{ m U}$   | 5.5E-03                                      | 2.2E-11                         | 5.5E-03    | 2.5E+10           |
| $^{90}Y^{1}$     | 3.2E+05                                      | 2.1E+05                         | -1.1E+05   | 5.2E+01           |
| <sup>91</sup> Y  | 4.1E-12                                      | NR                              | 0.0E+00    | 0.0E+00           |
| <sup>65</sup> Zn | NR   | NR                              | 0.0E+00    | 0.0E+00           |
| <sup>93</sup> Zr | 3.4E-01                                      | 1.3E-03                         | 3.4E-01    | 2.6E+04           |
| <sup>95</sup> Zr | 9.8E-14                                      | 3.0E-01                         | -3.0E-01   | -1.0E+02          |
| Total:           | 1.6E+06                                      | 1.0E+06                         | 6.1E+05    | 6.0E+01           |

Source: TWBID Revision 2.1 (LANL 2005) Data Version D.4.16.

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<sup>\*</sup>NR = Not Reported.

1 Most abundant RH radionuclides are 137mBa, 137Cs, 241Pu, 90Sr, and 90Ywith 98 percent of the activity (1.6E+06 Ci).

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## **APPENDIX C**

CROSSWALK OF TWBIR REVISION 2 AND TWBIR - 2004 WASTE STREAMS

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#### C-1.0 INTRODUCTION

This Transuranic Waste Baseline Inventory Report - 2004 (TWBIR - 2004) contains the update to the Transuranic Waste Baseline Inventory Report, Revision 2 (TWBIR Revision 2) (DOE 1995) and TWBIR Revision 3 (DOE 1996). The U.S. Environmental Protection Agency (EPA) is interested in the differences in the inventory between TWBIR Revisions 2 and 3 and this TWBIR - 2004. The Compliance Certification Application (CCA) used the TWBIR Revisions 2 and 3 data for the Compliance Certification Decision (CRA) (EPA 1998) to initially certify the Waste Isolation Pilot Plant (WIPP). During their completeness review, the EPA requested that significant changes in inventory information that had occurred since the cut off date of September 30, 2002 be included in this updated document.

### Those changes include:

- The deletion of 11 waste streams from the Hanford Richland Operations Office (RL) (Lott 2004a)
- The inclusion of 4 waste streams at INL from the pre-1970 buried waste that was originally reported in waste stream IN-Z001 (Lott 2004b)
- Changes that resulted from a final review of the waste stream profiles. This review identified inconsistencies (such as accounting methods for packaging configurations, accounting for low-level waste (LLW) as Transuranic (TRU) waste, volume reductions processes, accounting for cement, packaging material densities, inconsistent WMPs, and final form radionuclide concentrations) which have now been corrected. As noted in the Leigh and Crawford (2004) summary report from this review, none of these inconsistencies had an impact on the performance assessment (PA) calculations that were reported in the CRA-2004 (DOE 2004)
- The waste streams from some small quantity sites that have shipped their waste to other sites or to WIPP have been deleted from this appendix, but the waste stream information is still included in the document

A crosswalk that maps current waste streams to those identified in TWBIR Revision 2 is provided in this appendix. Each TRU waste site was requested to provide an explanation as to what changed in their inventory since the CCA inventory. Those explanations are provided in the respective site sections. The inventory information in this appendix is not intended to match the inventory information submitted for use in the PA in support of the WIPP CRA-2004. The scope of this appendix is limited to revealing the significant changes in waste streams since September 30, 2002. New sites have been included in this update and in this appendix. The new sites are Framatome (FR), Hanford-River Protection (RP), General Electric Vallecitos Nuclear Center (GE), Separations Process Research Unit (SPRU), Babcock & Wilcox-Lynchburg (BL), and Knolls Atomic Power Laboratory-Nuclear Fuels Services (KN). Waste streams presented in this section include waste streams from both Appendix I (currently non-WIPP waste streams) and Appendix J (WIPP-bound waste streams).

More small quantity TRU waste sites have been added to the list of sites that no longer have TRU waste. The list of sites at the time of this report includes ARCO Medical Products (AM), Pantex (PX), Teledyne-Brown (TB), Ames Laboratory (AL), Mound (MD), Energy Technology Engineering Center (ETEC), University of Missouri Research Reactor (MURR), and Lawrence Berkeley National Laboratory (LBNL).

"N/A" in the TWBIR Revision 2 Waste Streams column in the following tables identifies new waste streams that were reported in TWBIR - 2004. "N/A" in the TWBIR - 2004 Waste Streams column identifies a deleted waste stream from TWBIR Revision 2. The data from Hanford RL includes several entries marked "unavailable." This entry resulted from the process used by the Hanford RL site that incorporated container re-assignments to new waste stream identification numbers without regard to waste stream continuity.

### C-1.1 Argonne National Laboratory-East (AE)

During the Argonne National Laboratory-East (ANL-E) 1996 data generation period for the TWBIR, the information submitted was the best available at the time. The ANL-E had a large number of bins [typically 3.5 m³ (123 ft³)¹ in size] that contained waste dating back to the late 1980s. These bins, containing various sized containers, were assigned a TRU waste designation by the generators based on the knowledge of the waste generation process. As a result, some of the waste may or may not have been TRU. There were also various-sized containers that contained liquids or solids that made it difficult to determine what the final waste stream volume would be.

Subsequent to the TWBIR Revision 2 submittal, ANL-E embarked on an aggressive campaign to characterize, treat, and where appropriate, repackage the TRU waste from the bins and containers identified and reported in the TWBIR Revision 2. Whenever possible, repackaging was performed that resulted in the waste being placed into 55-gallon drums for enhanced inventory identification and tracking, and also in preparation for eventual characterization and disposal. This repackaging process allowed ANL-E's to more accurately quantify the TRU waste.

In addition to improved inventory accountability through ANL-E repackaging efforts, there was an increase in the volume of TRU waste at ANL-E. Additionally, more TRU waste was generated since the TWBIR Revision 2 as a result of aggressive site-wide cleanup activities performed during the late 1990s. Table C-1 contains the crosswalk of the ANL-E waste streams from TWBIR Revision 2 to the TWBIR - 2004.

Table C-1. Argonne National Laboratory-East (AE) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams     | TWBIR - 2004 Waste Streams |
|------------------------------------|----------------------------|
| AE-W041, AE-W042, AE-T001          | AE-T001                    |
| AE-W038, AE-W039, AE-W040, AE-T003 | AE-T003                    |
| AE-T009                            | AE-T009                    |

<sup>&</sup>lt;sup>1</sup> The conversion factor used throughout this section is 1 m<sup>3</sup> (35.32 ft<sup>3</sup>).

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## C-1.2 Argonne National Laboratory-West (AW)

The increase in the TWBIR Revision 2 quantity of 26 m<sup>3</sup> (918 ft<sup>3</sup>) to the TWBIR - 2004 quantity of 306 m<sup>3</sup> (10,808 ft<sup>3</sup>) is caused by the inclusion of the waste volume that is suspect and may be TRU, with waste that is known to be TRU.

The 280 m<sup>3</sup> (9,890 ft<sup>3</sup>) of suspect TRU waste is difficult to characterize since it is typically mixed with highly radioactive waste and stored inside sealed steel in-ground silos at the ANL-W Radioactive Scrap and Waste facility. Many of the suspect TRU silos were loaded in the 1960s and 1970s and do not have detailed inventory records that call out TRU isotopes.

ANL-W has requested funding to design and build a remote-handled waste treatment facility to unload, sort, characterize, treat, and repackage the waste in these silos. Until this facility begins operation (scheduled in 2009), an upper bound, conservative estimate of the Argonne National Laboratory-West (ANL-W) TRU waste that could potentially go to WIPP for disposal will be used.

The ANL-W TRU waste volumes, 306 m<sup>3</sup> (10,808 ft<sup>3</sup>), is the TRU inventory figure that ANL-W reported to the Inspector General during the April 2002 survey of remote-handled TRU waste site activities.

Table C-2 contains the crosswalk of the ANL-W waste streams from the TWBIR Revision 2 to the TWBIR - 2004.

Table C-2. Argonne National Laboratory-West (AW) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| AW-N026.82                     | AW-N026.82                 |
| AW-N027.531                    | AW-N027.531                |
| AW-T029.1323                   | AW-W029                    |
| AW-T030.1321                   | N/A                        |
| AW-T031.1322                   | AW-T031.1322               |
| AW-T032-1324                   | N/A                        |
| AW-T033.1325                   | AW-T033.1325               |
| AW-T034.1327                   | N/A                        |
| AW-T035.1326                   | N/A                        |
| AW-W012.10                     | AW-W012.10                 |
| AW-W016.20                     | N/A                        |
| AW-W018                        | AW-W018                    |
| AW-W019                        | AW-W019                    |
| AW-W020.13                     | AW-W20.13                  |
| AW-W021.16                     | N/A                        |
| AW-W022.22                     | N/A                        |
| AW-N028                        | AW-W028                    |
| N/A                            | AW-W026                    |

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Table C-2. Argonne National Laboratory-West (AW) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | AW-W046                    |
| N/A                            | AW-W047                    |
| N/A                            | AW-W048                    |
| N/A                            | AW-W049                    |

## C-1.3 Babcock and Wilcox-Lynchburg (BL)

The Babcock and Wilcox-Lynchburg (BL) TRU waste was discussed in TWBIR Revision 2, but no specific waste streams were included in the TRU waste inventory information. BL added one new waste stream for the TWBIR - 2004. Table C-3 provides the new waste stream identified by BL.

Table C-3. Babcock and Wilcox-Lynchburg Crosswalk of Waste Streams
TWBIR Revision 2 to the TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | BL-001                     |

## C-1.4 Battelle Columbus Laboratories (BC)

The TWBIR, Revision 2 reported only one waste stream – BC-T001 for Battelle Columbus Laboratories (BCL). This waste has since been repackaged and characterized. As a result, better data were used to define multiple waste streams.

The TWBIR, Revision 2 value inventory volume, 581 m³ (20,486 ft³), was an estimate based on the storage vault and container dimensions, and included the storage vaults, containers, and the research hot-cells internal volume, and all utilities. The TWBIR - 2004 inventory volume of 35 m³ (1,236 ft³), is based on a well documented and characterized sorting, segregation, compaction, and decontamination process. The result of this process was a 95 percent reduction of the TWBIR, Revision 2 inventory estimate. The weight-dose-to-curie computer modeling program and database developed by the BCL allowed for the segregation of low-level waste from the TRU waste which also helped reduce the TWBIR, Revision 2 inventory estimate.

The waste matrix code for the TWBIR, Revision 2 inventory was S5400-heterogeneous debris. Acceptable Knowledge (AK) documentation is complete. New waste matrix codes for the waste streams were assigned. For example, there are several absorbed liquid waste streams and resins that require an S series waste matrix code. In addition, the Carlsbad Field Office (CBFO) has better defined the requirements for waste designation since the initial inventory baseline was issued.

Finally, TRUCON codes were assigned for the new waste streams for the TWBIR - 2004. These were not known or required for RH-TRU wastes for the TWBIR, Revision 2 inventory.

Table C-4 contains the crosswalk of BCL waste streams from TWBIR Revision 2 to the TWBIR - 2004 for BCL.

Table C-4. Battelle Columbus Laboratories (BC) Crosswalk of Waste Streams
TWBIR Revision 2 to TWBIR - 2004

| * *                            |  |
|--------------------------------|--|
| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams   |
| BC-T001                        | BCLRH-T001, BCLRH-T002, BCLRH-T003, BCLRH-T004, BCLRH-T005, BCLRH-T006, BCLRH-T007, BCLRH-T008, BCLRH-T009, BCLRH-T010, BCLRH-MT01, BCLRH-T011 |
| N/A                            | BCLCH-MT01   |

## C-1.5 Bettis Atomic Power Laboratory (BT)

The TWBIR, Revision 2, for Bettis Atomic Power Laboratory (BAPL) listed five waste streams: BT-T001 through BT-T005. Waste streams BT-T004 and BT-T005 were deleted, as these were radioactive sources that were subsequently placed in the Offsite Source Recovery (OSR) database. Waste stream BT-T003 consisted of waste containing uranium-233. As uranium-233 is no longer considered TRU from a waste disposal standpoint, this waste stream was deleted. This waste will be disposed of at a DOE low-level waste disposal facility. Records indicate that the TWBIR, Revision 2, BT-T001 and BT-T002 volumes were 1.95 m³ (68.87 ft³) and 17.6 m³ (621.6 ft³) respectively—essentially the same as the TWBIR - 2004 inventory values of 2 m³ (70.64 ft³) and 18.6 m³ (656.95 ft³).

Table C-5 contains the crosswalk of the BAPL waste streams from TWBIR Revision 2 to the TWBIR - 2004.

Table C-5. Bettis Atomic Power Laboratory (BT) Crosswalk of Waste Streams
TWBIR Revision 2 to TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| BT-T001                        | BT-T001                    |
| BT-T002                        | BT-T002                    |
| BT-T003                        | N/A                        |
| BT-T004                        | N/A                        |
| BT-T005                        | N/A                        |

#### C-1.6 Framatome (FM)

Framatome (FM) is a new waste site that has been added to the TRU waste inventory. Table C-6 identifies the waste streams at Framatome.

Table C-6. Framatome (FM) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | FM-MOX-MT02                |
| N/A                            | FM-MOX-T01                 |

## C-1.7 General Electric Vallecitos Nuclear Center (VN)

General Electric Vallecitos Nuclear Center (GEVNC) was mentioned in TWBIR Revision 2, but no specific waste streams were identified. The waste streams from GEVNC are now included in the TWBIR - 2004.

Table C-7 identifies the waste streams identified by GE.

Table C-7. General Electric Vallecitos Nuclear Center (VN) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | VN-CHT001                  |
| N/A                            | VN-RHT001                  |

# C-1.8 Hanford Richland Operations Office (RL)

The TRU waste identified for the Richland Operations Office (RL) is designated with an "RL" site identifier. A significant change in this update for RL is that the inventory information from the Plutonium Finishing Plant has been updated. RL has deleted 11 waste streams that were inadvertently included in the data submittal (Lott 2004a). Many minor updates to other waste streams and additional new waste streams are also identified.

Table C-8 contains the crosswalk of RL waste streams from TWBIR Revision 2 to the TWBIR - 2004.

Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-T101                        | RL-T101                    |
| RL-T102                        | RL-T102                    |
| RL-T103                        | RL-T103                    |
| RL-T104                        | RL-T104                    |
| RL-T105                        | RL-T105                    |
| RL-T106                        | RL-T106                    |
| RL-T107                        | RL-T107                    |
| RL-T108                        | RL-T108                    |

Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-T109                        | RL-T109                    |
| RL-T110                        | RL-T110                    |
| RL-T112                        | RL-T112                    |
| RL-T113                        | RL-T113                    |
| RL-W114                        | RL-W114                    |
| RL-T115                        | RL-T115                    |
| RL-T116                        | RL-T116                    |
| RL-T118                        | RL-T118                    |
| RL-T120                        | RL-T120                    |
| RL-T121                        | RL-T121                    |
| RL-T122                        | RL-T122                    |
| RL-T123                        | RL-T123                    |
| RL-T124                        | RL-T124                    |
| RL-T125                        | RL-T125                    |
| RL-T127                        | RL-T127                    |
| RL-T128                        | RL-T128                    |
| RL-T129                        | RL-T129                    |
| RL-T130                        | RL-T130                    |
| RL-T131                        | RL-T131                    |
| RL-T132                        | RL-T132                    |
| RL-T133                        | RL-T133                    |
| RL-T134                        | RL-T134                    |
| RL-T135                        | RL-T135                    |
| RL-T137                        | RL-T137                    |
| RL-T140                        | RL-T140                    |
| RL-T143                        | RL-T143                    |
| RL-T145                        | RL-T145                    |
| RL-T147                        | RL-T147                    |
| RL-T148                        | RL-T148                    |
| RL-T149                        | RL-T149                    |
| RL-W161                        | RL-W161                    |
| RL-W162                        | RL-W162                    |
| RL-W276                        | N/A                        |
| RL-W277                        | N/A                        |
| RL-W278                        | N/A                        |
| RL-W279                        | N/A                        |
| RL-W280                        | N/A                        |
| RL-W281                        | N/A                        |
| RL-W282                        | N/A                        |
| RL-W283                        | N/A                        |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR - 2004                   |                            |  |
|--------------------------------|----------------------------|--|
| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |  |
| RL-W284                        | RL-W284                    |  |
| RL-W285                        | N/A                        |  |
| RL-W286                        | N/A                        |  |
| RL-W287                        | N/A                        |  |
| RL-W288                        | N/A                        |  |
| RL-W289                        | N/A                        |  |
| RL-W290                        | N/A                        |  |
| RL-W291                        | N/A                        |  |
| RL-W292                        | N/A                        |  |
| RL-W293                        | N/A                        |  |
| RL-W294                        | N/A                        |  |
| RL-W295                        | N/A                        |  |
| RL-W296                        | N/A                        |  |
| RL-W297                        | N/A                        |  |
| RL-W298                        | N/A                        |  |
| RL-W299                        | N/A                        |  |
| RL-W300                        | N/A                        |  |
| RL-W301                        | N/A                        |  |
| RL-W302                        | N/A                        |  |
| RL-W303                        | N/A                        |  |
| RL-W304                        | N/A                        |  |
| RL-W305                        | N/A                        |  |
| RL-W306                        | N/A                        |  |
| RL-W307                        | N/A                        |  |
| RL-W308                        | N/A                        |  |
| RL-W309                        | N/A                        |  |
| RL-W310                        | N/A                        |  |
| RL-W311                        | N/A                        |  |
| RL-W312                        | N/A                        |  |
| RL-W313                        | N/A                        |  |
| RL-W314                        | N/A                        |  |
| RL-W315                        | N/A                        |  |
| RL-W316                        | N/A                        |  |
| RL-W317                        | N/A                        |  |
| RL-W318                        | N/A                        |  |
| RL-W319                        | N/A                        |  |
| RL-W320                        | N/A                        |  |
| RL-W321                        | N/A                        |  |
| RL-W321                        | N/A                        |  |
| RL-W322                        | N/A                        |  |
| NL- W 323                      | 1N/A                       |  |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-W324                        | N/A                        |
| RL-W325                        | N/A                        |
| RL-W326                        | N/A                        |
| RL-W327                        | RL-W327                    |
| RL-W328                        | RL-W328                    |
| RL-W329                        | RL-W329                    |
| RL-W330                        | N/A                        |
| RL-W331                        | N/A                        |
| RL-W332                        | RL-W332                    |
| RL-W333                        | RL-W333                    |
| RL-W334                        | RL-W334                    |
| RL-W335                        | N/A                        |
| RL-W336                        | N/A                        |
| RL-W337                        | N/A                        |
| RL-W338                        | N/A                        |
| RL-W339                        | N/A                        |
| RL-W340                        | N/A                        |
| RL-W341                        | N/A                        |
| RL-W342                        | N/A                        |
| RL-W343                        | N/A                        |
| RL-W344                        | N/A                        |
| RL-W345                        | N/A                        |
| RL-W346                        | N/A                        |
| RL-W347                        | N/A                        |
| RL-W348                        | N/A                        |
| RL-W349                        | N/A                        |
| RL-W350                        | N/A                        |
| RL-W351                        | N/A                        |
| RL-W352                        | N/A                        |
| RL-W353                        | N/A                        |
| RL-W354                        | N/A                        |
| RL-W355                        | N/A                        |
| RL-W356                        | N/A                        |
| RL-W357                        | RL-W357                    |
| RL-W358                        | N/A                        |
| RL-W359                        | N/A                        |
| RL-W360                        | N/A                        |
| RL-W361                        | N/A                        |
| RL-W362                        | N/A                        |
| RL-W363                        | N/A                        |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-W364                        | N/A                        |
| RL-W365                        | N/A                        |
| RL-W366                        | RL-W366                    |
| RL-W367                        | N/A                        |
| RL-W368                        | N/A                        |
| RL-W369                        | N/A                        |
| RL-W370                        | N/A                        |
| RL-W371                        | N/A                        |
| RL-W372                        | N/A                        |
| RL-W373                        | N/A                        |
| RL-W374                        | N/A                        |
| RL-W375                        | N/A                        |
| RL-W376                        | N/A                        |
| RL-W377                        | N/A                        |
| RL-W378                        | N/A                        |
| RL-W379                        | N/A                        |
| RL-W380                        | N/A                        |
| RL-W381                        | N/A                        |
| RL-W382                        | RL-W382                    |
| RL-W383                        | N/A                        |
| RL-W384                        | N/A                        |
| RL-W385                        | N/A                        |
| RL-W386                        | N/A                        |
| RL-W387                        | N/A                        |
| RL-W388                        | N/A                        |
| RL-W389                        | N/A                        |
| RL-W390                        | N/A                        |
| RL-W391                        | RL-W391                    |
| RL-W392                        | N/A                        |
| RL-W393                        | N/A                        |
| RL-W394                        | N/A                        |
| RL-W395                        | N/A                        |
| RL-W396                        | N/A                        |
| RL-W397                        | N/A                        |
| RL-W398                        | N/A                        |
| RL-W399                        | N/A                        |
| RL-W400                        | N/A                        |
| RL-W401                        | N/A                        |
| RL-W402                        | N/A                        |
| RL-W403                        | N/A                        |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-W404                        | N/A                        |
| RL-W405                        | N/A                        |
| RL-W406                        | N/A                        |
| RL-W407                        | RL-W407                    |
| RL-W408                        | RL-W408                    |
| RL-W409                        | N/A                        |
| RL-W410                        | N/A                        |
| RL-W411                        | N/A                        |
| RL-W412                        | N/A                        |
| RL-W413                        | N/A                        |
| RL-W414                        | N/A                        |
| RL-W415                        | RL-W415                    |
| RL-W416                        | N/A                        |
| RL-W417                        | N/A                        |
| RL-W418                        | RL-W418                    |
| RL-W419                        | RL-W419                    |
| RL-W420                        | RL-W420                    |
| RL-W421                        | RL-W421                    |
| RL-W422                        | N/A                        |
| RL-W423                        | N/A                        |
| RL-W424                        | N/A                        |
| RL-W425                        | N/A                        |
| RL-W426                        | N/A                        |
| RL-W427                        | N/A                        |
| RL-W428                        | RL-W428                    |
| RL-W429                        | N/A                        |
| RL-W430                        | N/A                        |
| RL-W431                        | N/A                        |
| RL-W432                        | N/A                        |
| RL-W433                        | RL-W433                    |
| RL-W434                        | N/A                        |
| RL-W435                        | N/A                        |
| RL-W436                        | RL-W436                    |
| RL-W437                        | N/A                        |
| RL-W438                        | RL-W438                    |
| RL-W439                        | N/A                        |
| RL-W440                        | N/A                        |
| RL-W441                        | N/A                        |
| RL-W442                        | N/A                        |
| RL-W443                        | N/A                        |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RL-W444                        | RL-W444                    |
| N/A                            | RL-W445                    |
| N/A                            | RL-W446                    |
| Unavailable                    | RL-W447                    |
| Unavailable                    | RL-W448                    |
| Unavailable                    | RL-W449                    |
| Unavailable                    | RL-W450                    |
| Unavailable                    | RL-W451                    |
| Unavailable                    | RL-W452                    |
| Unavailable                    | RL-W453                    |
| Unavailable                    | RL-W454                    |
| Unavailable                    | RL-W455                    |
| Unavailable                    | RL-W456                    |
| Unavailable                    | RL-W457                    |
| Unavailable                    | RL-W458                    |
| Unavailable                    | RL-W459                    |
| Unavailable                    | RL-W460                    |
| Unavailable                    | RL-W461                    |
| Unavailable                    | RL-W462                    |
| Unavailable                    | RL-W463                    |
| Unavailable                    | RL-W464                    |
| Unavailable                    | RL-W465                    |
| Unavailable                    | RL-W466                    |
| Unavailable                    | RL-W467                    |
| Unavailable                    | RL-W468                    |
| Unavailable                    | RL-W469                    |
| Unavailable                    | RL-W470                    |
| Unavailable                    | RL-W471                    |
| Unavailable                    | RL-W472                    |
| Unavailable                    | RL-W473                    |
| Unavailable                    | RL-W474                    |
| Unavailable                    | RL-W475                    |
| Unavailable                    | RL-W476                    |
| Unavailable                    | RL-W477                    |
| Unavailable                    | RL-W478                    |
| Unavailable                    | RL-W479                    |
| Unavailable                    | RL-W480                    |
| Unavailable                    | RL-W481                    |
| Unavailable                    | RL-W482                    |
| Unavailable                    | RL-W483                    |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | RL-W484                    |
| N/A                            | RL-W485                    |
| N/A                            | RL-W486                    |
| Unavailable                    | RL-W487                    |
| Unavailable                    | RL-W488                    |
| Unavailable                    | RL-W489                    |
| Unavailable                    | RL-W490                    |
| Unavailable                    | RL-W491                    |
| Unavailable                    | RL-W492                    |
| Unavailable                    | RL-W493                    |
| Unavailable                    | RL-W494                    |
| Unavailable                    | RL-W495                    |
| Unavailable                    | RL-W496                    |
| N/A                            | RL-W497                    |
| Unavailable                    | RL-W498                    |
| Unavailable                    | RL-W499                    |
| Unavailable                    | RL-W500                    |
| Unavailable                    | RL-W501                    |
| Unavailable                    | RL-W502                    |
| Unavailable                    | RL-W503                    |
| Unavailable                    | RL-W504                    |
| Unavailable                    | RL-W505                    |
| Unavailable                    | RL-W506                    |
| Unavailable                    | RL-W507                    |
| Unavailable                    | RL-W508                    |
| Unavailable                    | RL-W509                    |
| Unavailable                    | RL-W510                    |
| Unavailable                    | RL-W511                    |
| Unavailable                    | RL-W512                    |
| Unavailable                    | RL-W513                    |
| Unavailable                    | RL-W514                    |
| Unavailable                    | RL-W515                    |
| Unavailable                    | RL-W516                    |
| N/A                            | RL-W517                    |
| Unavailable                    | RL-W518                    |
| Unavailable                    | RL-W519                    |
| Unavailable                    | RL-W520                    |
| Unavailable                    | RL-W521                    |
| Unavailable                    | RL-W522                    |
| Unavailable                    | RL-W523                    |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| Unavailable                    | RL-W524                    |
| Unavailable                    | RL-W525                    |
| Unavailable                    | RL-W526                    |
| Unavailable                    | RL-W527                    |
| Unavailable                    | RL-W528                    |
| Unavailable                    | RL-W529                    |
| Unavailable                    | RL-W530                    |
| Unavailable                    | RL-W531                    |
| Unavailable                    | RL-W532                    |
| Unavailable                    | RL-W533                    |
| Unavailable                    | RL-W534                    |
| Unavailable                    | RL-W535                    |
| Unavailable                    | RL-W536                    |
| Unavailable                    | RL-W537                    |
| Unavailable                    | RL-W538                    |
| Unavailable                    | RL-W539                    |
| Unavailable                    | RL-W540                    |
| Unavailable                    | RL-W541                    |
| Unavailable                    | RL-W542                    |
| Unavailable                    | RL-W543                    |
| Unavailable                    | RL-W544                    |
| Unavailable                    | RL-W545                    |
| Unavailable                    | RL-W546                    |
| Unavailable                    | RL-W547                    |
| Unavailable                    | RL-W548                    |
| Unavailable                    | RL-W549                    |
| Unavailable                    | RL-W550                    |
| Unavailable                    | RL-W551                    |
| Unavailable                    | RL-W552                    |
| Unavailable                    | RL-W553                    |
| Unavailable                    | RL-W554                    |
| Unavailable                    | RL-W555                    |
| Unavailable                    | RL-W556                    |
| Unavailable                    | RL-W557                    |
| Unavailable                    | RL-W558                    |
| Unavailable                    | RL-W559                    |
| Unavailable                    | RL-W560                    |
| Unavailable                    | RL-W561                    |
| Unavailable                    | RL-W562                    |
| Unavailable                    | RL-W563                    |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| Unavailable                    | RL-W564                    |
| Unavailable                    | RL-W565                    |
| Unavailable                    | RL-W566                    |
| Unavailable                    | RL-W567                    |
| Unavailable                    | RL-W568                    |
| Unavailable                    | RL-W569                    |
| Unavailable                    | RL-W570                    |
| Unavailable                    | RL-W571                    |
| Unavailable                    | RL-W572                    |
| Unavailable                    | RL-W573                    |
| Unavailable                    | RL-W574                    |
| Unavailable                    | RL-W575                    |
| Unavailable                    | RL-W576                    |
| Unavailable                    | RL-W577                    |
| Unavailable                    | RL-W578                    |
| N/A                            | RL-W579                    |
| Unavailable                    | RL-W580                    |
| Unavailable                    | RL-W581                    |
| Unavailable                    | RL-W582                    |
| Unavailable                    | RL-W583                    |
| Unavailable                    | RL-W584                    |
| Unavailable                    | RL-W585                    |
| Unavailable                    | RL-W586                    |
| Unavailable                    | RL-W587                    |
| Unavailable                    | RL-W588                    |
| Unavailable                    | RL-W589                    |
| Unavailable                    | RL-W590                    |
| Unavailable                    | RL-W591                    |
| Unavailable                    | RL-W592                    |
| Unavailable                    | RL-W593                    |
| Unavailable                    | RL-W594                    |
| Unavailable                    | RL-W595                    |
| Unavailable                    | RL-W596                    |
| Unavailable                    | RL-W597                    |
| Unavailable                    | RL-W598                    |
| Unavailable                    | RL-W599                    |
| Unavailable                    | RL-W600                    |
| N/A                            | RL-W601                    |
| Unavailable                    | RL-W602                    |
| N/A                            | RL-W603                    |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR - 2004 Waste Streams |
|----------------------------|
| RL-W604                    |
| RL-W605                    |
| RL-W606                    |
| RL-W607                    |
| RL-W608                    |
| RL-W609                    |
| RL-W610                    |
| RL-W612                    |
| RL-W613                    |
| RL-W614                    |
| RL-W615                    |
| RL-W616                    |
| RL-W617                    |
| RL-W618                    |
| RL-W619                    |
| RL-W620                    |
| RL-W621                    |
| RL-W622                    |
| RL-W623                    |
| RL-W625                    |
| RL-W626                    |
| RL-W627                    |
| RL-W628                    |
| RL-W629                    |
| RL-W630                    |
| RL-W631                    |
| RL-W632                    |
| RL-W633                    |
| RL-W634                    |
| RL-W635                    |
| RL-W636                    |
| RL-W637                    |
| RL-W638                    |
| RL-W639                    |
| RL-W640                    |
| RL-W641                    |
| RL-W642                    |
| RL-W643                    |
| RL-W644                    |
| RL-W645                    |
|                            |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR - 2004                   |                            |  |
|--------------------------------|----------------------------|--|
| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |  |
| Unavailable                    | RL-W646                    |  |
| Unavailable                    | RL-W647                    |  |
| Unavailable                    | RL-W648                    |  |
| Unavailable                    | RL-W649                    |  |
| Unavailable                    | RL-W650                    |  |
| Unavailable                    | RL-W651                    |  |
| Unavailable                    | RL-W652                    |  |
| Unavailable                    | RL-W653                    |  |
| Unavailable                    | RL-W654                    |  |
| Unavailable                    | RL-W655                    |  |
| Unavailable                    | RL-W656                    |  |
| Unavailable                    | RL-W657                    |  |
| N/A                            | RL-W658                    |  |
| Unavailable                    | RL-W659                    |  |
| Unavailable                    | RL-W660                    |  |
| Unavailable                    | RL-W661                    |  |
| Unavailable                    | RL-W662                    |  |
| N/A                            | RL-W663                    |  |
| Unavailable                    | RL-W664                    |  |
| Unavailable                    | RL-W665                    |  |
| Unavailable                    | RL-W666                    |  |
| Unavailable                    | RL-W667                    |  |
| Unavailable                    | RL-W668                    |  |
| Unavailable                    | RL-W669                    |  |
| Unavailable                    | RL-W670                    |  |
| N/A                            | RL-W671                    |  |
| N/A                            | RL-W672                    |  |
| Unavailable                    | RL-W673                    |  |
| N/A                            | RL-W674                    |  |
| N/A                            | RL-W675                    |  |
| Unavailable                    | RL-W676                    |  |
| N/A                            | RL-W677                    |  |
| Unavailable                    | RL-W678                    |  |
| Unavailable                    | RL-W679                    |  |
| Unavailable                    | RL-W680                    |  |
| N/A                            | RL-W681                    |  |
| N/A                            | RL-W682                    |  |
| N/A                            | RL-W683                    |  |
| N/A<br>N/A                     | RL-W684                    |  |
|                                |                            |  |
| N/A                            | RL-W685                    |  |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | RL-W686                    |
| N/A                            | RL-W687                    |
| N/A                            | RL-W688                    |
| Unavailable                    | RL-W689                    |
| Unavailable                    | RL-W690                    |
| Unavailable                    | RL-W691                    |
| Unavailable                    | RL-W692                    |
| Unavailable                    | RL-W693                    |
| Unavailable                    | RL-W694                    |
| Unavailable                    | RL-W695                    |
| N/A                            | RL-W696                    |
| Unavailable                    | RL-W697                    |
| N/A                            | RL-W698                    |
| Unavailable                    | RL-W699                    |
| Unavailable                    | RL-W700                    |
| N/A                            | RL-W701                    |
| Unavailable                    | RL-W702                    |
| Unavailable                    | RL-W703                    |
| Unavailable                    | RL-W704                    |
| Unavailable                    | RL-W705                    |
| Unavailable                    | RL-W706                    |
| Unavailable                    | RL-W707                    |
| Unavailable                    | RL-W708                    |
| Unavailable                    | RL-W709                    |
| Unavailable                    | RL-W710                    |
| Unavailable                    | RL-W711                    |
| Unavailable                    | RL-W712                    |
| Unavailable                    | RL-W713                    |
| Unavailable                    | RL-W714                    |
| Unavailable                    | RL-W715                    |
| Unavailable                    | RL-W716                    |
| Unavailable                    | RL-W717                    |
| Unavailable                    | RL-W718                    |
| Unavailable                    | RL-W719                    |
| Unavailable                    | RL-W720                    |
| Unavailable                    | RL-W721                    |
| Unavailable                    | RL-W722                    |
| Unavailable                    | RL-W723                    |
| Unavailable                    | RL-W724                    |
| Unavailable                    | RL-W725                    |

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Table C-8. Hanford Site (RL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| Unavailable                    | RL-W726                    |
| Unavailable                    | RL-W727                    |
| Unavailable                    | RL-W728                    |
| Unavailable                    | RL-W729                    |
| Unavailable                    | RL-W730                    |
| Unavailable                    | RL-W731                    |
| Unavailable                    | RL-W732                    |
| Unavailable                    | RL-W733                    |
| Unavailable                    | RL-W734                    |
| Unavailable                    | RL-W735                    |
| Unavailable                    | RL-W736                    |
| Unavailable                    | RL-W737                    |
| Unavailable                    | RL-W738                    |
| Unavailable                    | RL-W739                    |
| Unavailable                    | RL-W740                    |
| Unavailable                    | RL-W741                    |
| Unavailable                    | RL-W742                    |
| Unavailable                    | RL-W743                    |
| Unavailable                    | RL-W744                    |
| Unavailable                    | RL-W745                    |
| Unavailable                    | RL-W746                    |
| Unavailable                    | RL-W747                    |
| Unavailable                    | RL-W748                    |
| Unavailable                    | RL-W749                    |
| Unavailable                    | RL-W750                    |
| Unavailable                    | RL-W751                    |
| Unavailable                    | RL-W752                    |
| Unavailable                    | RL-W753                    |
| Unavailable                    | RLW-756                    |
| RL-Z001                        | RL-Z001                    |
| N/A                            | RL-Z002                    |
| N/A                            | RL-Z003                    |

## C-1.9 Hanford Office of River Protection (RP)

The Hanford Office of River Protection (RP) tanks were discussed in TWBIR Revision 2, but there were no specific waste streams identified. Twelve tanks in four waste streams have been included in the TWBIR - 2004. The tank waste is maintained by the RP and the waste streams are designated with an "RP" site identifier.

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Table C-9 contains the waste streams identified for the RP tank waste.

Table C-9. Hanford Office of River Protection (RP) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | RP-W013                    |
| N/A                            | RP-W016                    |
| N/A                            | RP-W754                    |
| N/A                            | RP-W755                    |

## C-1.10 Idaho National Laboratory (IN)

The most significant change at the Idaho National Laboratory (INL) is that the legacy contact-handled (CH)-TRU waste will be processed through the Advanced Mixed Waste Treatment Facility. The CH-TRU debris waste will be compacted in the facility. An average of four compacted 55-gallon drums will be placed into a 100-gallon drum for shipment to the WIPP. Since thermal treatment, as planned and reported in TWBIR Revision 3, is no longer an option, the compaction of the debris waste, the mass of the cellulosic, plastic, and rubber (CPR) materials has increased.

The CH-TRU homogeneous waste will be overpacked into the 10-drum overpack (containing 10 55-gallon drums) for shipment to WIPP.

For the RH-TRU waste, the TWBIR Revision 2 included waste that was potentially RH-TRU waste, as well as waste known to be RH-TRU waste. The TWBIR - 2004 only addresses waste that is known to be RH-TRU waste; therefore, the volume has decreased.

Another significant change at INL is the addition of four waste streams from the pre-1970 waste streams (Lott 2004b).

Table C-10 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the INL.

Table C-10. Idaho National Laboratory (IN) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| IN-W112                        | N/A                        |

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Table C-10. Idaho National Laboratory (IN) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| Revision 2 vs. TWBIR - 2004  |                            |  |
|--|----------------------------|--|
| TWBIR Revision 2 Waste Streams   | TWBIR - 2004 Waste Streams |  |
| IN-W139.627, IN-W161.231, IN-W161.806, IN-W166.151, IN-W166.928, IN-W169-191, IN-W169-192, IN-W169.193, IN-W169.194, IN-W169.985, IN-W170.189, IN-W170.938, IN-W171.184, IN-W171.801, IN-W182.182, IN-W172.911, IN-W186.187, IN-W187.1094, IN-W197.121, IN-W189.1048, IN-W189.131, IN-W197.196, IN-W197.197, IN-W197.198, IN-W197.802, IN-W198.804, IN-W199.109, IN-W198.203, IN-W198.204, IN-W198.205, IN-W198.804, IN-W199.1039, IN-W199.209, IN-W202.1092, IN-W202.224, IN-W203.1081, IN-W203.210, IN-W203.211, IN-W203.212, IN-W204.215, IN-W204.216, IN-W204.217, IN-W205.1086, IN-W207.980, IN-W207.981, IN-W204.216, IN-W204.217, IN-W205.1086, IN-W207.980, IN-W207.981, IN-W206.935, IN-W206.936, IN-W207.238, IN-W207.980, IN-W207.981, IN-W208.242, IN-W208.243, IN-W208.988, IN-W209.244, IN-W209.994, IN-W210.1001, IN-W210.247, IN-W211.1009, IN-W211.249, IN-W212.1058, IN-W212.251, IN-W213.1069, IN-W225.252, IN-W213.253, IN-W214.1075, IN-W214.755, IN-W214.756, IN-W225.127, IN-W225.800, IN-W230.229, IN-W230.940, IN-W250.259, IN-W250.941, IN-W255.280, IN-W254.289, IN-W254.280, IN-W250.259, IN-W256.295, IN-W259.9552, IN-W259.920, IN-W260.565, IN-W260.566, IN-W260.567, IN-W260.568, IN-W260.916, IN-W265.516, IN-W265.517, IN-W269.510, IN-W269.535, IN-W271.532, IN-W271.533, IN-W272.504, IN-W278.974, IN-W278.495, IN-W278.066, IN-W260.566, IN-W260.566, IN-W260.566, IN-W260.916, IN-W268.354, IN-W278.049, IN-W278.049, IN-W278.0495, IN-W278.0495, IN-W278.0491, IN-W278.0495, IN-W278.066, IN-W278.0495, IN-W278.066, IN-W398.317, IN-W298.318, IN-W298.316, IN-W398.366, IN-W390.308, IN-W390.663, IN-W390.669, IN-W311.1018, IN-W311.1004, IN-W351.6 | IN-BN-510                  |  |
| IN-W157.906, IN-W157.907, IN-W157.144  | IN-W157.144                |  |
| IN-W159.119, IN-W159.120, IN-W159.1072   | IN-W159.1072               |  |
| IN-W163.234, IN-W163.1007  | IN-W163.1007               |  |
| IN-W164.1060, IN-W164.153  | IN-W164.153                |  |
| IN-W167.926, IN-W167.149   | IN-W167.149                |  |
| IN-W174.1082, IN-W174.154  | IN-W174.154                |  |
| IN-W177.1083, IN-W177.156  | IN-W177.156                |  |
| IN-W179.1084, IN-W179.158  | IN-W179.158                |  |

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Table C-10. Idaho National Laboratory (IN) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams  | TWBIR - 2004 Waste Streams |
|---|----------------------------|
| IN-W188.1093, IN-W188.160   | IN-W188.160                |
| IN-W216.875, IN-W216.876, IN-W216.98,   | IN-W216.98                 |
| IN-W216.877, IN-W216.99, IN-W306.817, IN-W308.816   |                            |
| IN-W218.109, IN-W218.909  | IN-W218.909                |
| IN-W220.925, IN-W220.114  | IN-W220.114                |
| IN-W221.113, IN-W221.927  | IN-W221.927                |
| IN-W222.117, IN-W222.965, IN-W222.116   | IN-W222.116                |
| IN-W228.102, IN-W228.103, IN-W228.883, IN-W228.884, IN-W228.885, IN-W228.886, IN-W306.817, IN-W308.816, IN-W228.101 | IN-W228.101                |
| IN-W240.272, IN-W240.931  | IN-W240.931                |
| IN-W243.274, IN-W243.275, IN-W243.276, IN-W243.277, IN-W243.808   | IN-W243.808                |
| IN-W245.1034, IN-W245.1035, IN-W245.302, IN-W245.301  | IN-W245.301                |
| IN-W247.1038, IN-W247.523, IN-W247.524, IN-W247.810   | IN-W247.810                |
| IN-W249.1071, IN-W249.528, IN-W249.527  | IN-W249.527                |
| IN-W257.558, IN-W257.947  | IN-INTEC-SFS-01            |
| IN-W259.921, IN-W349.667, IN-W349.924   | IN-AE-AGHC-01              |
| IN-W267.514, IN-W267.1005   | IN-W267.1005               |
| IN-W309.610, IN-W308.816, IN-W306.817, IN-W309.609  | IN-W309.609                |
| IN-W319.583, IN-W319.584  | IN-W319.584                |
| IN-W321.578, IN-W321.1023   | IN-W321.1023               |
| IN-W332.962, IN-W332.661  | IN-W332.661                |
| IN-W347.646, IN-W347.818  | IN-W347.818                |
| IN-W348.846, IN-W348.1012   | IN-W348.1012               |
| IN-W357.850, IN-W357.1022   | IN-W357.1022               |
| IN-W361.849, IN-W361.1021   | IN-W361.1021               |
| IN-W362.848, IN-W362.1020   | IN-W362.1020               |
| IN-W363.847, IN-W363.1019   | IN-W363.1019               |
| IN-W364.844, IN-W364.845, IN-W364.1011  | IN-W364.1011               |
| IN-W365.842, IN-W365.843, IN-W365.1010  | IN-W365.1010               |
| IN-W366.1004, IN-W366.841   | IN-W366.841                |
| IN-W375.827, IN-W375.1096   | IN-W375.1096               |
| IN-W263.520   | IN-W263.520                |
| IN-W353.859   | IN-W353.859                |
| IN-W315.601   | IN-W315.601                |
| IN-W181.162   | IN-W181.162                |
| IN-W219.110   | IN-W219.110                |
| IN-W219.914   | IN-W219.914                |
| IN-W322.851   | IN-W322.851                |
| IN-W322.952   | IN-W322.952                |
| IN-W323.562   | IN-W323.562                |

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Table C-10. Idaho National Laboratory (IN) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| IN-W323.951                    | IN-W323.951                |
| IN-W337.673                    | IN-W337.673                |
| IN-W337.957                    | IN-W337.957                |
| IN-W341.671                    | IN-W341.671                |
| IN-W341.954                    | IN-W341.954                |
| IN-W342.652                    | IN-W342.652                |
| IN-W342.953                    | IN-W342.953                |
| IN-W358.854                    | IN-W358.854                |
| IN-W358.855                    | IN-W358.855                |
| IN-W358.948                    | IN-W358.948                |
| IN-W358.949                    | IN-W358.949                |
| IN-W372.832                    | IN-W372.832                |
| IN-W372.918                    | IN-W372.918                |
| N/A                            | IN-NRF-153                 |
| N/A                            | IN-TRA-150                 |
| N/A                            | IN-TRA-157                 |
| N/A                            | IN-AW-161                  |
| IN-Z001                        | IN-GEM-01                  |
| IN-Z001                        | IN-GEM-02                  |
| IN-W325.1076                   | IN-W325.1076               |
| IN-W325.679                    | IN-W325.679                |
| IN-W350.650                    | IN-W350.650                |
| IN-W350.923                    | IN-W350.923                |
| IN-W353.917                    | IN-W353.917                |
| IN-W359.853                    | IN-W359.853                |
| IN-W360.852                    | IN-W360.852                |
| IN-W360.912                    | IN-W360.912                |
| IN-W146.699                    | IN-W146.699                |
| N/A                            | IN-SBW-01A                 |
| N/A                            | IN-SBW-01B                 |
| N/A                            | IN-TRA-BE-01               |
| IN-Z001                        | IN-Z001                    |
| N/A                            | IN-Z001A                   |
| N/A                            | IN-ICP-002                 |
| N/A                            | IN-ICP-003                 |
| N/A                            | IN-ICP-004                 |
| N/A                            | IN-ICP-005                 |

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# C-1.11 Knolls Atomic Power Laboratory (KA)

The moderate increase of the projected volumes of TRU waste for Knolls Atomic Power Laboratory (KAPL) waste streams KA-T001 and KA-W016 between the TWBIR Revision 2 and TWBIR - 2004 are a result of improved estimates of material that is expected to be generated, characterized, and packaged in its final waste form.

The TRU waste inventory volumes listed in TWBIR, Revision 2, for waste stream KA-T001 stored in final form was erroneously listed as  $2.5~\text{m}^3$  ( $88.3~\text{ft}^3$ ). This was incorrect and only a small amount of TRU waste had actually been generated –  $0.2~\text{m}^3$  ( $7.06~\text{ft}^3$ ) (as-generated volume). At the time, there was no TRU waste stored in final waste form. The  $2.5~\text{m}^3$  ( $88.3~\text{ft}^3$ ) listed in the Revision 2 was the projected volume. The TWBIR, Revision 2 should have indicated  $0~\text{m}^3$  of stored TRU waste in its final waste form. The TWBIR - 2004~value is  $0~\text{m}^3$  as there is still no TRU waste in its final waste form.

Table C-11 provides the crosswalk for KAPL waste streams from TWBIR Revision 2 to the TWBIR - 2004.

Table C-11. Knolls Atomic Power Laboratory (KA) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| KA-T001                        | KA-T001                    |
| KA-W016                        | KA-W016                    |

## C-1.12 Knolls Atomic Power Laboratory-Nuclear Fuel Services (KN)

Knolls Atomic Power Laboratory-Nuclear Fuel Services (KAPL-NFS) is a new site. This is the first time waste streams from the site have been included in the TRU waste inventory information.

Table C-12 provides the waste streams from KAPL-NFS.

Table C-12. Knolls Atomic Power Laboratory-Nuclear Fuel Services (KN) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| N/A                            | KN-B234TRU                 |
| N/A                            | KN-B234PCBTRU              |

## C-1.13 Lawrence Livermore National Laboratory (LL)

The inventory of stored waste at Lawrence Livermore National Laboratory (LLNL) increased because of ongoing TRU waste generation. LLNL updated the originally reported numbers for most of the waste streams to reflect the current inventory.

A new high-efficiency particulate air (HEPA) filter mixed waste stream, LL-W034, was established to accommodate several old boxes and one drum.

Table C-13 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the LLNL.

Table C-13. Lawrence Livermore National Laboratory (LL) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| LL-M001                        | LL-M001                    |
| LL-T001                        | LL-T001                    |
| LL-T002                        | LL-T002                    |
| LL-T003                        | LL-T003                    |
| LL-T004                        | LL-T004                    |
| LL-T005                        | LL-T005, LL-W034           |
| LL-W018                        | LL-W018                    |
| LL-W019                        | LL-W019                    |

### C-1.14 Los Alamos National Laboratory (LA)

The major differences in the Los Alamos National Laboratory (LANL) submittals for the TWBIR Revision 2 and the TWBIR - 2004 are due to three factors:

- Redefinition of waste streams,
- Addition of waste generated between 1996 and 2003, and
- Addition of radiography characterization data for approximately 5,000 drums.

#### C-1.14.1 Redefinition of Waste Streams

Following the guidance in the draft WIPP Waste Analysis Plan (WAP) (NMED 1999), LANL reorganized its waste streams beginning in 1998 with the publication of the "LANL Waste Characterization Sampling Plan, R.O." Waste streams in the TWBIR, Revision 2, were defined based on major waste material parameter content (e.g., metals, combustible debris). These were further subdivided beginning in 1998 according to the waste generation facility. Waste stream assignments, especially involving the mixed or non-mixed status of wastes, were further refined using additional acceptable knowledge studies in subsequent versions of the "Acceptable Knowledge Information Summary." There is no simple rule for correspondence in waste stream assignment between the LANL submittals for TWBIR, Revision 2 and TWBIR - 2004; improved acceptable knowledge (AK) resulted in numerous waste stream reassignments.

### C-1.14.2 Addition of Waste

LANL continues to generate waste – approximately 1,600 containers were generated between 1996 and the latest TWBIR - 2004 submittal. These have been added to the LANL inventory in the latest data submittal.

# C-1.14.3 Radiography Characterization Data

LANL has obtained real-time radiography (RTR) data for about 5,000 waste drums from almost all of the defined waste streams. RTR supplies information on average, minimum, and maximum waste material parameter content for each waste stream. Isotopic information for each waste stream is still based primarily on AK (generator assays).

Table C-14 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the LANL.

Table C-14. Los Alamos National Laboratory (LA) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams   |
|--------------------------------|--|
| LA-M002                        | LA-TA-00-05, LA-TA-03-28, LA-TA-21-13,<br>LA-TA-21-43, LA-TA-50-17, LA-TA-50-18  |
| LA-T001                        | LA-TA-00-01, LA-TA-21-42, LA-TA-50-11, LA-TA-50-<br>15,<br>LA-TA-55-19, LA-TA-55-30, LA-TA-55-44   |
| LA-T002                        | LA-TA-50-17  |
| N/A                            | LA-0S-00-01  |
| LA-T004                        | LA-IT-00-01, LA-PX-00-01, LA-TA-00-02, LA-TA-00-05, LA-TA-00-06, LA-TA-00-07, LA-TA-03-12, LA-TA-03-13, LA-TA-03-19, LA-TA-03-20, LA-TA-03-24, LA-TA-03-26, LA-TA-03-30, LA-TA-21-06, LA-TA-21-12, LA-TA-21-15, LA-TA-21-42, LA-TA-48-01, LA-TA-50-11, LA-TA-50-15, LA-TA-50-40, LA-TA-55-19, LA-TA-55-20, LA-TA-55-21, LA-TA-55-30, LA-TA-55-33, LA-TA-55-38, LA-TA-55-43, LA-TA-55-44, LA-TA-55-48, LA-TA-55-49, LA-TA-55-56 |
| LA-T005                        | LA-IT-00-01, LA-SL-00-01, LA-TA-00-01, LA-TA-00-02, LA-TA-00-04, LA-TA-00-05, LA-TA-00-06, LA-TA-00-07, LA-TA-03-12, LA-TA-03-19, LA-TA-03-20, LA-TA-03-24, LA-TA-03-42, LA-TA-21-12, LA-TA-48-01, LA-TA-50-11, LA-TA-55-19, LA-TA-55-20, LA-TA-55-21, LA-TA-55-22, LA-TA-55-23, LA-TA-55-24, LA-TA-55-25, LA-TA-55-28, LA-TA-55-30, LA-TA-55-32, LA-TA-55-33, LA-TA-55-34, LA-TA-55-38, LA-TA-55-39, LA-TA-55-43, LA-TA-55-60 |
| LA-T006                        | LA-TA-00-02, LA-TA-00-05, LA-TA-21-15, LA-TA-21-12, LA-TA-48-01, LA-TA-50-15, LA-TA-55-30, LA-TA-55-32, LA-TA-55-33, LA-TA-55-38, LA-TA-55-44, LA-   |

Table C-14. Los Alamos National Laboratory (LA) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams              | TWBIR - 2004 Waste Streams   |
|---|--|
| 1 WDIX REVISION 2 Waste Streams             | TA-55-49   |
| LA-T007                                     | LA-TA-03-24, LA-TA-03-26   |
| LA-T008                                     | LA-TA-00-01, LA-TA-03-29, LA-TA-21-14, LA-TA-21-<br>41, LA-TA-21-44, LA-TA-50-20   |
| LA-T009                                     | LA-IT-00-01, LA-OS-00-02, LA-TA-00-01, LA-TA-00-02, LA-TA-00-04, LA-TA-00-07, LA-TA-03-12, LA-TA-03-13, LA-TA-03-19, LA-TA-03-20, LA-TA-03-24, LA-TA-03-26, LA-TA-03-40, LA-TA-03-42, LA-TA-21-12, LA-TA-21-41, LA-TA-21-42, LA-TA-21-44, LA-TA-50-11, LA-TA-50-15, LA-TA-50-17, LA-TA-50-19, LA-TA-50-41, LA-TA-55-19, LA-TA-55-30, LA-TA-55-33, LA-TA-55-34, LA-TA-55-38, LA-TA-55-44, LA-TA-55-48, LA-TA-55-49, LA-TA-55-53, LA-TA-55-56, LA-TA-55-60, LA-TA-55-62, LA-TA-55-63 |
| LA-TR04                                     | LA-TA-03-27  |
| LA-TR05                                     | LA-TA-03-27  |
| LATR07                                      | LA-TA-00-02, LA-TA-03-27   |
| LA-W001 is LA-M001 (This is LANL Local ID.) | LA-TA-00-02, LA-TA-00-04, LA-TA-00-05, LA-TA-03-12, LA-TA-03-19, LA-TA-03-24, LA-TA-03-40, LA-TA-21-12, LA-TA-21-40, LA-TA-21-42, LA-TA-49-01, LA-TA-50-11, LA-TA-50-15, LA-TA-50-40, LA-TA-55-19, LA-TA-55-30, LA-TA-55-44  |
| LA-W003 is LA-M003 (This is LANL Local ID.) | LA-TA-00-01, LA-TA-00-05, LA-TA-21-43, LA-TA-50-<br>10, LA-TA-50-19  |
| LA-W004 is LA-M004 (This is LANL Local ID.) | LA-TA-00-05, LA-TA-00-06, LA-TA-00-07, LA-TA-03-12, LA-TA-03-13, LA-TA-03-19, LA-TA-03-20, LA-TA-21-06, LA-TA-55-19, LA-TA-55-20, LA-TA-55-30, LA-TA-55-44, LA-TA-55-56  |
| LA-W005 is LA-M005 (This is LANL Local ID.) | LA-TA-00-02, LA-TA-00-04, LA-TA-00-06, LA-TA-00-07, LA-TA-03-13, LA-TA-03-19, LA-TA-03-24, LA-TA-55-19, LA-TA-55-21, LA-TA-55-22, LA-TA-55-23, LA-TA-55-28, LA-TA-55-30, LA-TA-55-32, LA-TA-55-34, LA-TA-55-38, LA-TA-55-39, LA-TA-55-43, LA-TA-55-44, LA-TA-55-53, LA-TA-55-56, LA-TA-55-60, LA-TA-55-61  |
| LA-W006 is LA-M006                          | LA-TA-00-05, LA-TA-03-30, LA-TA-21-16, LA-TA-50-19, LA-TA-55-30, LA-TA-55-32, LA-TA-55-38, LA-TA-55-41, LA-TA-55-44, LA-TA-55-49, LA-TA-55-53, LA-TA-03-31   |
| LA-W009 is LA-M009 (This is LANL Local ID.) | LA-IT-00-01, LA-TA-00-01, LA-TA-00-02, LA-TA-00-03, LA-TA-00-04, LA-TA-03-13, LA-TA-03-19, LA-TA-03-28, LA-TA-03-40, LA-TA-21-16, LA-TA-21-40, LA-TA-50-15, LA-TA-50-17, LA-TA-50-18, LA-TA-50-19, LA-TA-50-40, LA-TA-55-19, LA-TA-55-30, LA-TA-55-38, LA-TA-55-44, LA-TA-55-49, LA-TA-55-53, LA-TA-55-56, LA-TA-55-60, LA-TA-55-61  |
| LA-W066 is LA-M001 (This is LANL Local ID.) | LA-TA-00-02, LA-TA-00-04, LA-TA-00-05, LA-TA-03-<br>12, LA-TA-03-19, LA-TA-03-24, LA-TA-03-40, LA-TA-  |

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Table C-14. Los Alamos National Laboratory (LA) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams              | TWBIR - 2004 Waste Streams                        |
|---|---|
|   | 21-12, LA-TA-21-40, LA-TA-21-42, LA-TA-49-01, LA- |
|   | TA-50-11, LA-TA-50-15, LA-TA-50-40, LA-TA-55-19,  |
|   | LA-TA-55-30, LA-TA-55-44                          |
| LA-W067 is LA-T004 (This is LANL Local ID.) | See LANL LA-T004                                  |
| LA-W068 is LA-T005 (This is LANL Local ID.) | See LANL LA-T005                                  |
| LA-WR01 is LA-MR01 (This is LANL Local ID.) | LA-TA-00-01, LA-TA-03-27                          |
| LA-WR05 is LA-MR05 (This is LANL Local ID.) | LA-TA-03-27                                       |
| N/A   | LA-TA-55-52                                       |
| LA-Z001                                     | Unavailable                                       |

## C-1.15 Nevada Test Site (NT)

The Nevada Test Site (NTS) has one new waste stream identified in the TWBIR - 2004 from the National Nuclear Security Administration. That new waste stream results from activities from the Joint Actinide Shock Physics Experimental Research (JASPER) Facility.

Table C-15 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the NTS.

Table C-15. Nevada Test Site Laboratory (NT) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| NT-W001                        | NT-W001                    |
| NT-W021                        | NT-W021                    |
| N/A                            | NT-JAS-01                  |

# C-1.16 Oak Ridge National Laboratory (OR)

### C-1.16.1 Waste Streams

The number of waste streams was reduced from 16 to 9. The reason for the change is to better represent the waste streams that WIPP will receive. The previously identified waste streams were reflective of the stored inventory. The new waste stream information reflects the repackaged waste after sorting, treatment, re-characterization, and repackaging.

Corresponding to the WIPP-ID changes, the waste matrix codes have been updated to reflect the waste stream parameters.

### C-1.16.2 TRUCON Codes

There were no significant changes in the TRUCON codes. Oak Ridge will need to work with WIPP to obtain TRUCON codes for the various waste streams as Oak Ridge approaches

certification. The currently approved Oak Ridge TRUCON codes (OR-125 and OR-225) are still needed.

#### **C-1.16.3 EPA Codes**

The EPA codes were eliminated for the waste because of treatment. The previous waste stream description included EPA codes for characteristic heavy metals including D006, D008, D009, and D011. The current DOE-ORO contract for processing the TRU waste includes treatment to meet the Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions. Therefore, the TRU waste will not carry the characteristic EPA codes at the time it is sent to WIPP.

### C-1.16.4 Radionuclides

The radioisotope inventory for Oak Ridge has changed considerably. The radioisotope inventories have increased from approximately 125,000 curies in TWBIR, Revision 2 to 245,000 curies in the TWBIR - 2004. The TWBIR Revision 2 information indicated that the predominant isotopes by activity were <sup>60</sup>Co and <sup>110m</sup>Ag, with over a factor of ten reduction to reach the next dominant isotopes (<sup>241</sup>Pu, <sup>241</sup>Am, <sup>90</sup>Sr, <sup>137</sup>Cs, etc.). The TWBIR - 2004 information indicates the predominant isotopes are <sup>241</sup>Pu, <sup>90</sup>Sr, and <sup>137</sup>Cs with over a factor of ten reduction to reach the next dominant isotopes (<sup>238</sup>Pu, <sup>152</sup>Eu, <sup>244</sup>Cm, etc.). The changes in the radioisotope inventory are attributable to three sources:

- Additional characterization information
- Differences in waste processing strategies
- Additional waste streams

Oak Ridge has obtained more reliable characterization data than what existed five years ago. A considerable number of samples have been obtained from the TRU sludge and analyzed. Further characterization was also performed for the CH- and RH-TRU waste debris from the major production facilities in Oak Ridge. The debris characterization effort identified more actinides and other isotopes than were previously included.

Oak Ridge waste processing includes compaction of the waste and size reduction of the waste. Since the TWBIR activities are reported as concentrations (i.e., Ci/m³), compaction and size reduction would increase the concentration. However, a net reduction of radioisotopes will be going to WIPP as a result of waste sorting and segregation. Sorting will generate LLW that will be sent to the NTS. Offsetting the isotope reduction by the generation of LLW is a small increase in the volume of unsorted waste. All told, these changes result in only moderate change to the overall totals.

Oak Ridge has identified a few additional waste streams that have added a significant amount of radioisotopes. These streams include TRU soils, fuel salts, and decontamination and decommissioning (D&D) debris.

### C-1.16.5 Packaging

The packaging, when realigned to the new waste stream designators, has not changed. Oak Ridge plans to send CH-TRU waste in 55-gallon drums and RH-TRU waste in 72B canisters.

### **C-1.16.6 Volumes**

The volume of waste being sent from Oak Ridge to WIPP has decreased from approximately 3,800 m³ (134,216 ft³) in TWBIR Revision 2 to 1,100 m³ (38,852 ft³) in the TWBIR - 2004. This is mostly attributable to the planned volume reduction techniques during waste processing including waste segregation (LLW from TRU), compaction, size reduction, and evaporative drying for sludge.

The Oak Ridge submittal for the TWBIR - 2004 is focused on the projected volumes, not the current volumes. The reason for the emphasis on projected volumes is that the Oak Ridge waste streams will be completely repackaged and will include considerable volume reduction to most of the waste streams. The repackaged waste is what will be sent to WIPP. The effort to prepare the TWBIR - 2004 information included a detailed evaluation of the projected volumes.

For the debris and homogeneous solids (sludge), the inventory information for TWBIR, Revisions 2 and 4 are essentially the same. The addition of environmental restoration waste streams (i.e., soil, salts, TRU Waste polychlorinated biphenyls [PCB]) resulted in new waste material parameter for those waste streams.

There is a significant change between WMP densities in TWBIR, Revision 2 and the TWBIR - 2004 due to the compaction and size reduction efforts previously discussed. Also, new waste streams (such as soil) have been added and their specific WMP densities are included in the TWBIR - 2004.

Table C-16 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the ORNL.

Table C-16. Oak Ridge National Laboratory (OR) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams     | TWBIR - 2004 Waste Streams |
|------------------------------------|----------------------------|
| OR-W041, OR-W052, OR-W053          | OR-W201                    |
| OR-W044, OR-W045, OR-W047, OR-W048 | OR-W202                    |
| N/A                                | OR-W203                    |
| N/A                                | OR-W204                    |
| OR-W054                            | OR-W211                    |
| OR-W040, OR-W043                   | OR-W212                    |
| N/A                                | OR-W213                    |
| N/A                                | OR-W214                    |
| OR-W042, OR-W046                   | OR-W215                    |
| OR-W051                            | N/A                        |
| OR-W049                            | N/A                        |
| OR-W050                            | N/A                        |
| OR-Z001                            | Unavailable                |

# C-1.17 Paducah Gaseous Diffusion Plant (PA)

There were no changes to the Paducah waste streams from TWBIR, Revision 2 to TWBIR - 2004. Table C-17 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the Paducah Gaseous Diffusion Plant.

Table C-17. Paducah Gaseous Diffusion Plant Laboratory (RA) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| PA-A015                        | PA-A015                    |
| PA-B015                        | PA-B015                    |
| PA-W014                        | PA-W014                    |

# C-1.18 Rocky Flats Environmental Technology Site (RF)

The major changes in the Rocky Flats Environmental Technology Site (RFETS) waste streams are that all the residues have been re-characterized as waste and have been processed and packaged as TRU or TRU mixed (MTRU) waste. Many waste streams were renamed from mixed residues (MR) waste to mixed TRU (MT) waste or TRU residues (TR) to TRU TRU (TT). Also, several new waste streams have been added. N/A for a waste stream indicates no inventory.

The waste material parameters (WMPs) and the radionuclide concentration in curies per cubic meter (Ci/m³) are based on data from WIPP-approved RTR or assay systems.

Table C-18 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the RFETS.

Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RF- MR-0070                    | N/A                        |
| RF-MR0089                      | RF-MT0089                  |
| RF-MR0090                      | RF-MT0090, RF-MT0093       |
| RF-MR0091                      | RF-MT0091, RF-MT0093       |
| RF-MR0092                      | RF-MT0092, RF-MT0093       |
| RF-MR0097                      | RF-MT0097, RF-MT0093       |
| RF-MR0099                      | RF-MT0099                  |
| RF-MR-0200                     | RF-TT0200                  |
| RF-MR0290                      | RF-MT0290                  |
| RF-MR-0292                     | RF-MT-0292                 |
| RF-MR-0299                     | N/A                        |
| RF-MR0320                      | RF-MT0320                  |
| RF-MR0321                      | RF-MT0321                  |
| RF-MR0330                      | RF-MT0330                  |

Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams  | TWBIR - 2004  TWBIR - 2004 Waste Streams                              |
|---|---|
| RF-MR-0331  | RF-MT-0331  |
| RF-MR0332   | RF-MT0332   |
| RF-MR-0333  | N/A   |
| RF-MR0336   | RF-MT0336   |
| RF-MR0337   | RF-MT0337   |
| RF-MR-0338  | RF-TT0338   |
| RF-MR0339   | RF-MT0339   |
| RF-MR0340   | RF-TT0340   |
| RF-MR0341   | RF-MT0339   |
| RF-MR-0342  | RF-MT-0342  |
| RF-MR-0365, RF-MR-0409, RF-MR-0411,   |   |
| RF-MR-0305, RF-MR-0409, RF-MR-0411, RF-MR-0413, RF-MR-0414, RF-MR-0434, RF-MT-0411, RF-TR0404, RF-TR0405, RF-TR0406, RF-TR0407, RF-TR0408, RF-TR0410, RF-TR0411, RF-TR0413, RF-TR0415, RF-TR0417, RF-TR0418, RF-TR0427, RF-TR0429, RF-TR0433, RF-TR0434, RF-TR0434, RF-TR0473, RF-TR0654, | RF-TT411R, RF-TT429R, RF-TT433X, RF-TT436R, RF-TT454X                 |
| RF-MR0371   | RF-MT0371   |
| RF-MR0373   | RF-MT0373   |
| RF-MR0374   | RF-MT0374   |
| RF-MR-0376  | RF-MT0376   |
| RF-MR0377   | RF-MT0377   |
| RF-MR0378   | RF-MT0378   |
| RF-MR-0387, RF-MR-0390, RF-MR-0392,   | RF-TT398R   |
| RF-MR-0391, RF-MR-0395, RF-TR0390,  |   |
| RF-TR0395, RF-TR0396, RF-TR0398   |   |
| RF-MR-0393  | RF-TT0393, RF-TT393R  |
| RF-MR-0400  | N/A   |
| RF-MR-0401  | N/A   |
| RF-MR0419   | RF-MT0419   |
| RF-MR0420   | RF-MT0420   |
| RF-MR0421, RF-MR0422, RF-MR0428   | RF-MT420P   |
| RF-MR0423   | RF-MT0423   |
| RF-MR-0500  | N/A   |
| RF-MR-0503  | RF-MT0503, RF-MT0505  |
| RF-MR-0508, RF-MR-0527  | RF-MT0828, RF-MT0829, RF-MT0505                                       |
| RF-MR0533   | RF-MT0533, RF-TT0533  |
| RF-MR0535   | RF-MT0535   |
| RF-MR-0541  | RF-MT0541   |
| RF-MR-X200  | RF-TT0523, RF-MT532C, RF-TT0200                                       |
| RF-MT0001   | RF-MT0001, RF-MT0002, RF-MT0532E,<br>RF-MT0532F, RF-MT0828, RF-MT0829 |

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Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| <b>TWBIR Revision 2 Waste Streams</b> | TWBIR - 2004 Waste Streams   |
|---------------------------------------|--|
| RF-MT0003                             | RF-MT0003, RF-MT0529, RF-MT0531, RF-MT0816, RF-MT0827, RF-MT0857                       |
| RF-MT0007                             | RF-MT0007  |
| RF-MT-0292                            | RF-MT-0292   |
| RF-MT-0299                            | RF-MT-0299   |
| RF-MT0320                             | RF-MT0320, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT0321                             | RF-MT0321, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT-0328                            | RF-MT-0328   |
| RF-MT0330                             | RF-MT0330, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT-0331                            | RF-MT-0331   |
| RF-MT-0335                            | RF-MT-0335   |
| RF-MT0336                             | RF-MT0336, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT0337                             | RF-MT0337, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT-0338                            | N/A  |
| RF-MT0339                             | RF-MT0339  |
| RF-MT0341                             | RF-MT0339  |
| RF-MT-0342                            | RF-MT-0342   |
| RF-MT-0372                            | RF-MT-0372, RF-TT0372  |
| RF-MT0374                             | RF-MT0374, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                                  |
| RF-MT0375                             | RF-MT0375A, RF-TT0375A, RF-MT0375B, RF-<br>TT0375B                                     |
| RF-MT0377                             | RF-MT0377, RF-TT0377   |
| RF-MT0378                             | RF-MT0378  |
| RF-MT-0368                            | RF-TT0368  |
| RF-MT-0391, RF-MT-0392                | RF-TT398R  |
| RF-MT-0393                            | RF-TT0393, RF-TT393R   |
| RF-MT-0400                            | N/A  |
| RF-MT-0409                            | RF-TT0409  |
| RF-MT-0412                            | RF-TT0412  |
| RF-MT-0414                            | N/A  |
| RF-MT0420                             | RF-MT0420  |
| RF-MT0425                             | RF-MT0425  |
| RF-MT-0438                            | RF-MT-0438   |
| RF-MT0440                             | RF-MT0440, RF-MT0443, RF-TT0443  |
| RF-MT0442                             | RF-MT0442  |
| RF-MT0444                             | RF-MT0444  |
| RF-MT0480                             | RF-MT0480, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011, RF-TT0971, RF-TT0972, RF-TT0973 |

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Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams                                      | TWBIR - 2004 Waste Streams   |
|---|--|
| RF-MT-0491  | RF-MT-0491   |
| RF-MT-0492  | RF-TT0492  |
| RF-MT-0541  | RF-MT0541  |
| RF-MT0544   | RF-MT0545, RF-TT0545, RF-TT0886                                      |
| RF-MT0800   | RF-MT0800  |
| RF-MT0801   | RF-MT0801  |
| RF-MT0803   | RF-MT0803  |
| RF-MT0806   | RF-MT0806  |
| RF-MT0807   | RF-MT0807  |
| RF-MT0821   | RF-TT0821, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT0822   | RF-TT0822, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT-0823  | RF-MT-0823   |
| RF-MT0831   | RF-MT0831, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT0831P  | N/A  |
| RF-MT0832   | RF-MT0832, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT0833   | RF-MT0833, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT0853   | RF-MT0833  |
| RF-MT0855   | RF-MT0855  |
| RF-MT0856   | RF-MT0443, RF-MT3010, RF-MT3011, RF-TT3010, RF-TT3011                |
| RF-MT2116   | RF-MT2116  |
| RF-MTX111   | N/A  |
| RF-MTX112   | RF-MT-0299   |
| RF-MTX115   | RF-MT0816, RF-MT0827   |
| RF-T010   | RF-MT0800, RF-MT0803, RF-MT0807                                      |
| RF-TR0044, RF-TR0067, RF-TR0081,<br>RF-TR0087, RF-TR0146, RF-TR0289 | RF-MT532C  |
| RF-TR0080   | RF-MT532A, RF-MT532B, RF-MT532C, RF-MT532D                           |
| RF-TR0082   | RF-MT532A, RF-MT532B, RF-MT532C, RF-MT532D                           |
| RF-TR0083   | RF-MT532A, RF-MT532B, RF-MT532C, RF-MT532D                           |
| RF-TR0084   | RF-MT532A, RF-MT532B, RF-MT532C, RF-MT532D                           |
| RF-TR0086   | RF-MT532A, RF-MT532B, RF-MT532C,<br>RF-MT532D                        |
| RF-TR0089   | RF-MT0089, RF-MT0H61, RF-MT532A,<br>RF-MT532B, RF-MT532C, RF-MT532D, |

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Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RF-TR0145                      | N/A                        |
| RF-TR0290                      | RF-MT0H61                  |
| RF-TR0299                      | RF-TT0299                  |
| RF-TR0300                      | RF-TT0300                  |
| RF-TR0301                      | RF-TT0301, RF-TT301U       |
| RF-TR0303                      | RF-TT0302                  |
| RF-TR0310                      | RF-TT0310, RF-TT310P       |
| RF-TR0312                      | RF-TT0312                  |
| RF-TR0320                      | RF-TT0320                  |
| RF-TR0330                      | RF-TT0330                  |
| RF-TR0331                      | RF-TT-0331                 |
| RF-TR0334                      | RF-TT-0334, RF-TT0532B     |
| RF-TR0335                      | RF-TT0335                  |
| RF-TR0336                      | RF-TT0336                  |
| RF-TR0337                      | RF-TT0337                  |
| RF-TR 0338                     | RF-TT0338, RF-TT338S       |
| RF-TR0342                      | RF-TT0342                  |
| RF-TR0368                      | RF-TT0368, RF-TT0360       |
| RF-TR0370                      | RF-TT0370                  |
| RF-TR0376                      | RF-TT0371                  |
| RF-TR0390                      | RF-TT390P                  |
| RF-TR0391                      | RF-TT0391, RF-TT391P       |
| RF-TR0392                      | RF-TT0392, RF-TT392P       |
| RF-TR0394                      | RF-TT0394, RF-TT394P       |
| RF-TR0395                      | RF-TT395P                  |
| RF-TR0396                      | RF-TT396P                  |
| RF-TR0398                      | RF-TT0398, RF-TT398P       |
| RF-TR0409                      | RF-TT0409                  |
| RF-TR0412                      | RF-TT0412                  |
| RF-TR0414                      | RF-TT0414                  |
| RF-TR0416                      | RF-TT0480                  |
| RF-TR0430                      | RF-TT0430                  |
| RF-TR0431                      | RF-TT0431                  |
| RF-TR0438                      | RF-TT0438, RF-TT0532B      |
| RF-TR0440                      | RF-TT0440                  |
| RF-TR0441                      | RF-TT0441                  |
| RF-TR0442                      | RF-TT0442                  |
| RF-TR0444                      | RF-MT0444                  |
| RF-TR0479                      | RF-TT0479                  |
| RF-TR0480                      | RF-TT0480                  |
| RF-TR0484                      | RF-TT0484                  |
| RF-TR0485                      | RF-TT0485                  |

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Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams      |
|--------------------------------|---------------------------------|
| RF-TR0486                      | RF-TT0486                       |
| RF-TR0489                      | RF-TT0489                       |
| RF-TR0504                      | N/A                             |
| RF-TR0527                      | RF-MT0828, RF-MT0829            |
| RF-TR0541                      | RF-TT0541                       |
| RF-TR0600                      | N/A                             |
| RF-TR0601                      | RF-TT0601                       |
| RF-TR0653                      | RF-MT532D                       |
| RF-TR0655                      | RF-TT0655                       |
| RF-TT0300                      | RF-TT0300                       |
| RF-TT0301                      | RF-TT0301                       |
| RF-TT0302                      | RF-TT0302, RF-MT0302            |
| RF-TT0303                      | RF-TT0303                       |
| RF-TT0312                      | RF-TT0312                       |
| RF-TT0320                      | RF-TT0320, RF-TT0483, RF-TT0854 |
| RF-TT0330                      | RF-TT0330                       |
| RF-TT0335                      | RF-TT0335                       |
| RF-TT0336                      | RF-TT0336                       |
| RF-TT0337                      | RF-TT0337                       |
| RF-TT0338                      | RF-TT0338                       |
| RF-TT0374                      | RF-TT0374                       |
| RF-TT0376                      | RF-TT0376                       |
| RF-TT0430                      | RF-TT0430                       |
| RF-TT0431                      | RF-TT0431                       |
| RF-TT0438                      | RF-TT0438, RF-TT0532B           |
| RF-TT0440                      | RF-TT0440, RF-TT0317            |
| RF-TT0441                      | RF-TT0441, RF-TT0317            |
| RF-TT0442                      | RF-TT0442, RF-TT0317            |
| RF-TT0479                      | RF-TT0479                       |
| RF-TT0480                      | RF-TT0480, RF-TT0483, RF-TT0854 |
| RF-TT0481                      | RF-TT0481                       |
| RF-TT0484                      | RF-TT0484                       |
| RF-TT0485                      | RF-TT0485, RF-TT0483, RF-TT0854 |
| RF-TT0486                      | RF-TT0486                       |
| RF-TT0487                      | RF-TT0487                       |
| RF-TT0489                      | RF-TT0489, RF-TT0483, RF-TT0854 |
| RF-TT0490                      | RF-TT0490, RF-MT0490            |
| RF-TT0491                      | RF-TT0491                       |
| RF-TT0508                      | RF-MT0828, RF-MT0829            |
| RF-TT0541                      | RF-TT0541                       |
| RF-TT0802                      | RF-TT0802                       |
| RF-TT0806                      | N/A                             |

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Table C-18. Rocky Flats Environmental Technology Site (RF) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| RF-TT0809                      | RF-TT0809                  |
| RF-TT0821                      | RF-TT0821                  |
| RF-TT0822                      | RF-TT0822                  |
| RF-TT0823                      | RF-TT0823                  |
| RF-TT0824                      | RF-TT0824                  |
| RF-TT0825                      | RF-TT0825                  |
| RF-TT0831                      | RF-MT0831                  |
| RF-TT0832                      | RF-TT0832                  |
| RF-TT0833,                     | RF-MT0831                  |
| RF-TT0999                      | N/A                        |
| RF-TT2116                      | RF-MT2116                  |
| RF-TT2216                      | RF-TT2216                  |
| RF-W011                        | RF-MT0480, RF-MT0488       |
| N/A                            | RF-TT0069                  |
| N/A                            | RF-TT0532A                 |
| N/A                            | RF-MT0523A                 |
| N/A                            | RF-MT0523B                 |
| N/A                            | RF-MT0523C                 |
| N/A                            | RF-MT0523D                 |
| N/A                            | RF-MT0523E                 |
| N/A                            | RF-TT0523A                 |
| N/A                            | RF-TT0523B                 |
| N/A                            | RF-TT0523C                 |
| N/A                            | RF-TT0523D                 |
| N/A                            | RF-TT0523E                 |

### C-1.19 Sandia National Laboratories (SA)

### **C-1.19.1 Inventory Changes**

The TWBIR, Revision 2, for Sandia National Laboratories, New Mexico (SNL/NM) included two waste streams: SA-W134 – Transuranic Waste at Hot Cell Facility and SA-T001 – Lovelace Inhalation Toxicology Research Institute (ITRI) Waste Stream. The TWBIR - 2004, renamed one waste stream, SA-W134 – TRU Waste from SNL/NM – Contact-Handled and created one new waste stream, SA-W135 – TRU Waste from SNL/NM – Remote-Handled. The total waste covered by these two waste streams shows an increase in volume from the TWBIR, Revision 2. This increase is due to the TRU waste volume generated during the decontamination and decommissioning of the Hot Cell Facility at SNL/NM Technical Area V being greater than originally anticipated, additional TRU waste identified during re-characterization efforts of legacy waste stored by SNL/NM, and an effort to identify nuclear material that has no defined use at the laboratory.

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The updated volume for SA-T001 – Lovelace ITRI Waste Stream has been reduced from the TWBIR, Revision 2. This is due to a mission change at the Lovelace Respiratory Research Institute (LRRI). It is no longer a DOE-funded facility and its work with radioactive material, especially transuranic isotopes, has been greatly reduced. Any additional TRU waste generated by the facility will be the result of D&D efforts.

Table C-19 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the SNL.

Table C-19. Sandia National Laboratories (SA) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |  |  |
|--------------------------------|----------------------------|--|--|
| SA-T001                        | SA-T001                    |  |  |
| SA-W134                        | SA-W134, SA-W134M, SA-W135 |  |  |
| SA-Z001                        | SA-Z001                    |  |  |

### C-1.20 Savannah River Site (SR)

The TWBIR, Revision 2, contained 47 specific waste streams for the Savannah River Site (SRS); 18 waste streams were TRU and 29 waste streams were mixed TRU (MTRU). The reported stored inventory was 9,194 m³ (324,732 ft³). In TWBIR, Revision 2, the technology identified for treating part of the inventory was vitrification that had a volume reduction ratio of 30 to 1. Also included was size reduction for large metal components that had to fit into standard waste boxes (SWBs). The size reduction ratio used was 3.5 to 1. As a result, the final waste forms identified were vitrified debris, heterogeneous debris, and metal debris.

The SRS has consolidated the 47 waste streams into 20 waste streams. This is because vitrification will no longer be implemented for treatment and the large metal components will only be size-reduced to fit into 5 ft by 5 ft by 8 ft containers. As a result, the vitrified and metal waste streams have been deleted and are now included in the heterogeneous debris waste streams. The reported TWBIR - 2004, stored inventory is 11,612 m<sup>3</sup> (410,135.8 ft<sup>3</sup>).

The SRS also identifies five future waste streams to be generated as a result of pit disassembly and waste solidification activities. It also identifies the future generation of 270 m<sup>3</sup> (9,536.4 ft<sup>3</sup>) of waste from Mound. This is the inventory currently being shipped to SRS. As shown in Table C-20, all 13 waste streams from Mound (identified in TWBIR, Revision 2) are accounted for in Waste Stream W027-999-HET (TWBIR - 2004).

Having compared the EPA Hazardous Waste codes between TWBIR, Revision 2 and TWBIR - 2004, five codes have been added in the TWBIR - 2004. The five codes are D029, D035, D039, D040, and D043. These codes were added as a result of Acceptable Knowledge report development.

Table C-20 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the SRS.

Table C-20. Savannah River Site (SR) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams  | TWBIR - 2004 Waste Streams |  |  |
|---|----------------------------|--|--|
| T001-221F-MET, T001-221F-VIT, T001-221F-HET   | T001-221F-HET              |  |  |
| T001-221H-MET, T001-221H-VIT, T001-221H-HET   | T001-221H-HET              |  |  |
| T001-235F-MET, T001-235F-VIT, T001-235F-HET   | T001-235F-HET              |  |  |
| T001-772F-MET, T001-772F-VIT, T001-772F-HET   | T001-772F-HET              |  |  |
| T001-773A-MET, T001-773A-VIT, T001-773A-HET   | T001-773A-HET              |  |  |
| T001-773A-CLA   | T001-773A-CLAS             |  |  |
| T003-773A-VIT, T003-773A-HET  | T003-773A-HET              |  |  |
| W006-773A-VIT   | W006-773A-VIT              |  |  |
| W026-221F-VIT, W026-221F-HET  | W026-221F-HET              |  |  |
| W026-221H-VIT, W026-221H-HE   | W026-221H-HET              |  |  |
| W026-235F-VIT, W026-235F-HET  | W026-235F-HET              |  |  |
| W026-772F-VIT, W026-772F-HET  | W026-772F-HET              |  |  |
| W026-773A-VIT, W026-773A-HE   | W026-773A-HET              |  |  |
| W027-221F-ME, W027-221F-VIT, W027-221F-HET  | W027-221F-HET              |  |  |
| W027-221H-ME, W027-221H-VIT, W027-221H-HE   | W027-221H-HET              |  |  |
| W027-235F-ME W027-235F-VIT, W027-235F-HET   | W027-235F-HET              |  |  |
| W027-772F-ME, W027-772F-VIT, W027-772F-HET  | W027-772F-HET              |  |  |
| W027-773A-ME, W027-773A-VIT, W027-773A-HE   | W027-773A-HET              |  |  |
| W027-999-VIT, W027-999-HET, MD-M001, MD-T001, MD-T003, MD-T005, MD-T006, MD-T007, MD-T008, MD-T009, MD-T010, MD-T012, MD-W002, MD-W003, MD-W017 | W027-999-HET               |  |  |
| W053-773A-VIT   | W053-773A-VIT              |  |  |
| N/A   | SR-T001-WSB-1              |  |  |
| N/A   | SR-W026-WSB-2              |  |  |
| N/A   | SR-T001-WSB-3              |  |  |
| N/A   | SR-W026-PDCF-1             |  |  |
| N/A   | SR-W026-MFFF-1             |  |  |
| SR-Z001   | Unavailable                |  |  |

# C-1.21 Separations Process Research Unit (SP)

The Separations Process Research Unit (SPRU) was mentioned in TWBIR Revision 2, but no waste streams were identified. One waste stream from SPRU is now included in TWBIR - 2004.

Table C-21 provides the waste stream from SPRU.

Table C-21. Separations Process Research Unit (SP) Crosswalk of Waste Streams TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |  |
|--------------------------------|----------------------------|--|
| N/A                            | SP-T001                    |  |

# C-1.22 U.S. Army Material Command (MC)

No changes were reported for the U.S. Army Material Command (USAMC) waste streams with this TWBIR - 2004.

Table C-22 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the USAMC.

Table C-22. U.S. Army Material Command (MC) Crosswalk of Waste Streams
TWBIR Revision 2 vs. TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |  |
|--------------------------------|----------------------------|--|
| MC-W001                        | MC-W001                    |  |

# C-1.23 West Valley Demonstration Project (WV)

Four waste streams were removed from the inventory as a result of re-characterization. Final form inventory was reduced because of size reduction and repackaging.

A Remote-Handled Waste Facility (RHWF) is being constructed to sort, characterize, size-reduce, decontaminate, and repackage waste currently stored on site. Operations at the RHWF are expected to begin in the first quarter of fiscal year 2005. As a result of this new facility, the RH-TRU waste portion of West Valley Demonstration Project (WVDP) waste, final form has been reduced. One additional waste stream number has been assigned for inventory tracking purposes as a result of the RHWF Process. The WV-T021 waste stream is a subset of waste stream WV-T001, Fissile Material, as shown in Table C-23.

Three decontamination projects were initiated and three additional waste stream numbers were assigned for inventory tracking purposes as shown in Table C-23.

Table C-23 contains the crosswalk of waste streams from TWBIR Revision 2 to the TWBIR - 2004 for the WVDP.

Table C-23. West Valley Demonstration Project (WVDP) Crosswalk of Waste Streams TWBIR Revision 2 to TWBIR - 2004

| TWBIR Revision 2 Waste Streams | TWBIR - 2004 Waste Streams |
|--------------------------------|----------------------------|
| WV-M005                        | WV-M005, WV-T019           |
| WV-M007                        | WV-M007                    |
| WV-M008                        | WV-M008                    |
| WV-M010                        | WV-M010                    |
| WV-M012                        | N/A                        |
| WV-M013                        | WV-M013                    |
| WV-M015                        | WV-M015                    |
| WV-T001                        | WV-T001, WV-T020, WV-T021  |
| WV-T002 N/A                    |                            |
| WV-T003 N/A                    |                            |

Table C-23. West Valley Demonstration Project (WVDP) Crosswalk of Waste Streams TWBIR Revision 2 to TWBIR - 2004

| TWBIR Revision 2 Waste Streams | e Streams TWBIR - 2004 Waste Streams |  |
|--------------------------------|--------------------------------------|--|
| WV-T004                        | WV-T004                              |  |
| WV-T006                        | WV-T006                              |  |
| WV-T009                        | WV-T009                              |  |
| WV-T011                        | WV-T011                              |  |
| WV-T014                        | WV-T014, WV-T018                     |  |
| WV-T016                        | WV-T016, WV-T018                     |  |
| WV-T017                        | WV-T017                              |  |
| WV-W041                        | N/A                                  |  |
| WV-W024                        | WV-W024                              |  |
| WV-Z001                        | WV-Z001                              |  |

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# APPENDIX D PACKAGING MATERIALS

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Appendix D - iv -

#### **D-1.0 INTRODUCTION**

The calculations for the packaging material densities (also referred to as container material densities) for steel, plastic, or lead present in each type of transuranic (TRU) waste container that will be shipped to the Waste Isolation Pilot Plant (WIPP) are based on packaging assumptions found in the *Transuranic Waste Baseline Inventory Report* (TWBIR), Revision 2, Chapter 1 (DOE 1995) and on data documented in the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC; DOE 2004a). Additional details concerning waste material parameters or packaging materials can be found in Table M-6 of Appendix M of this document. This appendix describes how packaging material densities are determined for sites where limited or no information was provided.

This appendix consists of two parts. In the first part, the general packaging material densities are given for directly loaded containers including 55-gallon drums, 85-gallon drums, 100-gallon drums, and standard waste boxes (SWBs). This part also includes the methods used to determine the packaging material densities when waste containers are overpacked, such as four 55-gallon drums overpacked in an SWB or ten 55-gallon drums overpacked in a ten-drum overpack (TDOP). These general methods are based on TWBIR, Revision 2 (DOE 1995) and the TRAMPAC (DOE 2004a). The calculations to estimate the packaging material densities in kilograms per cubic meter (kg/m³) are presented in Section D-2.0.

The second part of this appendix summarizes the methods used to calculate and document packaging material densities on a site-by-site basis. These summaries are based on several "Routine Calculations" that were developed and documented under Sandia National Laboratories (SNL) Nuclear Waste Management Program Procedure, NP 9-1, Analyses (SNL 2001). These routine calculations were conducted after a thorough review of the inventory information revealed that some waste streams required modification to allow for shipping container volume. For example, some sites reported the current packaging configuration of their waste streams instead of the configuration that the waste would be in when shipped to and disposed in WIPP. Although this information was accurate and complete, the result was that the waste volumes reported did not truly reflect the volume the waste will occupy when disposed in WIPP. Waste volume accuracy in this regard is vital for the Performance Assessment (PA) calculations in support of the Compliance Recertification Application 2004 (DOE 2004b) and the Performance Assessment Baseline Calculation (PABC) (Leigh et al. 2005a, Leigh et al. 2005b). The routine calculations serve to repair this discrepancy in the volumes and apply the new volumes to the waste and packaging material densities and the radionuclide concentrations. The methods used to estimate the packaging material densities in kg/m<sup>3</sup> are summarized in Section D-3.0, with reference to the actual routine calculations by SNL WIPP Records Center, Electronic Records Management System (ERMS) number.

### D-2.0 GENERAL PACKAGING MATERIAL DENSITIES

# D-2.1 Packaging Material Densities for a Directly Loaded 55-Gallon Drum

### **D-2.1.1** Steel

A 55-gallon drum is made of steel and weighs 27.2 kg (60 lbs) (DOE 2004a). The density of steel for the drum is calculated as follows:

Density of Steel = 
$$\frac{27.2 \text{ kg}}{0.208 \text{ m}^3 \text{ per drum}}$$
 =  $131 \text{ kg/m}^3$ 

### D-2.1.2 Plastic

The rigid liner in a 55-gallon drum weighs 7.7 kg (17 lbs) (DOE 1995). The density of plastic packaging in a 55-gallon drum is calculated as follows:

Density of Plastic = 
$$\frac{7.7 \text{ kg}}{0.208 \text{ m}^3}$$
 =  $37 \text{ kg/m}^3$ 

# D-2.2 Packaging Material Densities for a Directly Loaded 85-Gallon Drum

A request was submitted to the Nuclear Regulatory Commission (NRC) in October 2002 to approve directly loaded 85-gallon drums as payload containers as part of the CH TRAMPAC Revision 1 (DOE 2004a). This has now been approved as a WIPP shipping container.

Additionally, the TRAMPAC, Revision 1 (DOE 2002) used the term "85-gallon drum" to refer to "drums with a range of dimensions yielding 75 to 88 gallons." Therefore, it is assumed that the density for 85-gallon drums applies to all drums between 75 and 88 gallons.

### **D-2.2.1** Steel

The weight of the 85-gallon drum is 36.7 kg (81 lbs) (DOE 2004a). The volume of an 85-gallon drum is 0.322 m<sup>3</sup>. The density of steel for the 85-gallon drum is calculated as follows:

Density of Steel = 
$$\frac{36.7 \text{ kg}}{0.322 \text{ m}^3 \text{ per } 85\text{-gallon drum}}$$
 =  $\frac{114 \text{ kg/m}^3}{114 \text{ kg/m}^3}$ 

### D-2.2.2 Plastic

It is assumed that no plastic liners are used. Therefore, the value used for the plastic packaging material is  $0.0 \text{ kg/m}^3$ .

# D-2.3 Packaging Material Densities for a Directly Loaded 100-Gallon Drum

The 100-gallon drum is currently authorized for shipment in the TRUPACT-II (DOE 2004a) and has been added as an authorized payload container for the HalfPACT.

### **D-2.3.1** Steel

The weight of a steel, 100-gallon drum is 43.1 kg (95 lbs) (DOE 2004a). The volume of a 100-gallon drum is 0.379 m<sup>3</sup>. The density of steel for the 100-gallon drum is calculated as follows:

Density of Steel = 
$$\frac{43.1 \text{ kg}}{0.379 \text{ m}^3 \text{ per } 100\text{-gallon drum}}$$
 =  $\frac{114 \text{ kg/m}^3}{0.379 \text{ m}^3 \text{ per } 100\text{-gallon drum}}$ 

### D-2.3.2 Plastic

It is assumed that no plastic liners are used. Therefore, the value used for the plastic packaging material is  $0.0 \text{ kg/m}^3$ .

## D-2.4 Packaging Material Densities for a Directly Loaded Standard Waste Box

### **D-2.4.1** Steel

A SWB is made of steel and weighs 290.2 kg (640 lbs) (DOE 2004a). The volume of an SWB is 1.89 m<sup>3</sup>. The amount of steel is calculated as follows:

Density of Steel = 
$$\frac{290.2kg}{1.89 \text{ m}^3 \text{ per SWB}}$$
 =  $\frac{154 \text{ kg/m}^3}{1.89 \text{ m}^3}$ 

### D-2.4.2 Plastic

The plastic liner in a directly loaded SWB weighs approximately 2.27 kg (5 lbs) (DOE 1995). The plastic packaging density in a directly loaded SWB is calculated as follows:

Density of Plastic = 
$$\frac{2.27 \text{ kg}}{1.89 \text{ m}^3}$$
 =  $1.2 \text{ kg/m}$ .

# D-2.5 Packaging Material Densities for a Directly Loaded Remote-Handled-Transuranic Waste Canister

There are two remote-handled (RH)-TRU waste canister designs available for use by the generator sites. One contains lead, the other does not. Since it was uncertain which canister would be used at the time of this report, this calculation uses the same assumption as that for the TWBIR Revision 2 (DOE 1995), and lead is included as packaging material for RH-TRU waste canisters.

### **D-2.5.1** Steel

The total weight of an empty RH-TRU waste canister is 799 kg (1,762 lbs), of which 386 kg (852 lbs) is steel and 413 kg (910 lbs) is lead (DOE 1995). This does not include the shield plug (included in emplacement materials). The volume of the RH-TRU waste canister is 0.89 m<sup>3</sup>. The density of steel for the RH-TRU waste canister is calculated as follows:

Density of Steel = 
$$\frac{386 \text{ kg}}{0.89 \text{ m}^3}$$
 =  $\frac{434 \text{ kg/m}^3}{\text{per RH-TRU waste canister}}$ 

### D-2.5.2 Plastic

For a directly loaded RH-TRU waste canister, it is assumed there would be no plastic packaging involved. Therefore, the amount of plastic for this case is zero.

### D-2.5.3 Lead

The weight of lead in the RH-TRU waste canister is 413 kg (910 lbs) (DOE 1995), and the volume is 0.89 m<sup>3</sup>. The density of lead is calculated as follows:

Density of Lead = 
$$\frac{413 \text{ kg}}{0.89 \text{ m}^3}$$
 =  $\frac{464 \text{ kg/m}^3}{\text{per RH-TRU waste canister}}$ 

# D-2.6 Packaging Material Densities for a Standard Waste Box Used to Overpack Four 55-Gallon Drums

#### **D-2.6.1** Steel

For the case of four 55-gallon drums overpacked in an SWB, the total weight of steel is a combination of the steel in the SWB and the steel in the 55-gallon drums. The weight of a 55-gallon drum is 27.2 kg (60 lbs) and the weight of an SWB is 290.2 kg (640 lbs) (NRC 2003). The density of steel for the SWB containing four 55-gallon drums is calculated as follows:

Density of Steel = 
$$(4 \text{ drums } x \text{ } 27.2 \text{ kg steel per drum} + 290.2 \text{ kg})$$
 =  $211 \text{ kg/m}^3$   
 $1.89 \text{ m}^3 \text{ per SWB}$ 

### D-2.6.2 Plastic

It is assumed that the plastic liner for the SWB will not be used when the drums are overpacked in the SWB. Thus, the plastic will be contributed entirely by the rigid liners in the four overpacked drums (refer to Section D-2.1.2 for plastic assigned to 55-gallon drums). The density of plastic packaging is calculated as follows:

Density of Plastic = 
$$\frac{4 \text{ drums } \times 7.7 \text{ kg of plastic per drum}}{1.89 \text{ m}^3 \text{ per SWB}}$$
 =  $\frac{16 \text{ kg/m}^3}{1.89 \text{ m}^3 \text{ per SWB}}$ 

# D-2.7 Packaging Material Densities for a Remote-Handled TRU-Waste Canister Used to Over-Pack Three 55-Gallon Drums

#### **D-2.7.1** Steel

For the case of three 55-gallon drums overpacked in a RH-TRU waste canister, the total weight of steel is a combination of the steel in the RH-TRU waste canister and steel in the three 55-gallon drums. The weight of a 55-gallon drum is 27.2 kg (60 lbs) (DOE 2004a) and the weight of steel in an RH-TRU waste canister is 386 kg (852 lbs) (DOE 1995). The density of steel for the RH-TRU waste canister with three 55-gallon drums in it is calculated as follows:

Density of Steel = 
$$(3 \text{ drums } x \text{ } 27.2 \text{kg}) + 386 \text{ kg}$$
 =  $525 \text{ kg/m}^3$   
 $0.89 \text{ m}^3 \text{ per RH-TRU } \text{ waste canister}$ 

### D-2.7.2 Plastic

The plastic will be contributed entirely by the rigid liners in the three overpacked 55-gallon drums. The plastic liners weigh approximately 7.7 kg (17 lbs) each (DOE 1995) and are in the total volume of the RH-TRU waste canister. The density of plastic packaging is calculated as follows:

Density of Plastic = 
$$\frac{3 \text{ drums } x 7.7 \text{ kg of plastic per drum}}{0.89 \text{ m}^3 \text{ per RH-TRU waste canister}} = \frac{26 \text{ kg/m}^3}{26 \text{ kg/m}^3}$$

### **D-2.7.3** Lead

Since the 55-gallon drums do not contribute any lead, the calculation for this case is the same as that of a directly loaded RH-TRU waste canister (464 kg/m<sup>3</sup>), as calculated in Section D-2.5.

# D-2.8 Packaging Material Densities for Ten 55-Gallon Drums in a Ten-Drum Overpack

### **D-2.8.1** Steel

For the case of ten 55-gallon drums overpacked in a TDOP, the total weight of steel is a combination of the steel in the TDOP and the ten 55-gallon drums. The weight of an empty TDOP is 771 kg (1,700 lbs) (DOE 2004a). The volume of a TDOP is 4.79 m<sup>3</sup>. The weight of a 55-gallon drum is 27.2 kg. The density of steel packaging in the TDOP containing 10 drums is calculated as follows:

Density of Steel = 
$$(10 \text{ drums } x 27.2 \text{ kg}) + 771 \text{ kg}$$
 =  $218 \text{ kg/m}^3$   
 $4.79 \text{ m}^3 \text{ per TDOP}$ 

### D-2.8.2 Plastic

The plastic in the TDOP will be contributed entirely by the rigid liners in the 10-drum overpacks. The density of plastic packaging is calculated as follows (see plastic assignment for 55-gallon drums in Section D-2.1.2):

Density of Plastic = 
$$\frac{10 \text{ drums } \times 7.7 \text{ kg of plastic per drum}}{4.79 \text{ m}^3 \text{ per TDOP}} = \frac{16 \text{ kg/m}^3}{4.79 \text{ m}^3 \text{ per TDOP}}$$

### D-3.0 TRU WASTE SITE PACKAGING MATERIAL DENSITIES

Several generator sites originally reported inventory information in a way that did not reflect the volume the waste would occupy when disposed in WIPP. The volume of waste needed for the PABC (Leigh et al. 2005a; Leigh et al. 2005b) is the volume that will be disposed in WIPP. Therefore, packaging information and calculations were reviewed and adjusted as necessary to reflect the volume the waste would occupy once disposed in WIPP. Table D-1 lists the large and small quantity TRU waste generator sites that required some adjustment of their packaging material densities, along with the ERMS reference number for the associated routine calculation.

Table D-1. TRU Waste Generator Sites and Associated ERMS Numbers for Routine Calculations Related to Packaging Material Densities

| Generator Site                                  | ERMS # for Routine Calculation                                 |  |  |
|---|--|--|--|
| Hanford Richland Operations Office (Hanford RL) | 530693   |  |  |
| Hanford Office of River Protection (Hanford RP) | 530675   |  |  |
| Idaho National Laboratory (INL)                 | 530666 (IN-BN-510)<br>530688 (Non-Debris)<br>530679 (RH/Other) |  |  |
| Los Alamos National Laboratory (LANL)           | 530717   |  |  |
| Argonne National Laboratories East (ANL-E)      | 530643   |  |  |
| Argonne National Laboratories West (ANL-W)      | 530639   |  |  |
| Battelle Columbus Laboratories (BCL)            | 530634   |  |  |
| Energy Technology Engineering Center (ETEC)     | 530658   |  |  |
| Knolls Atomic Power Laboratory (KAPL)           | 530648   |  |  |
| Lawrence Livermore National Laboratory (LLNL)   | 530662   |  |  |
| Paducah Gaseous Diffusion Plant (PGDP)          | 530670   |  |  |

Table D-2 contains a summary of the packaging configurations and packaging material densities for sites whose packaging required updating to obtain the volume needed for the PA in support of the PABC (Leigh et al. 2005a; Leigh et al. 2005b). The processes used to obtain these results are described in Sections D-3.1 through D-3.11.

Table D-2. Summary of Packaging Configurations and Packaging Material Densities

| Generator Site <sup>1</sup> | Packaging Configuration <sup>2</sup>  | Steel Packaging Material Density (kg/m³)³ | Plastic<br>Packaging<br>Material<br>Density<br>(kg/m³)³ | Lead Packaging Material Density (kg/m³)³ |
|-----------------------------|---|---|---|--|
| Hanford RL                  | Directly loaded 55-gallon drums   | 131                                       | 37  | 0  |
|                             | Directly loaded SWBs  | 154                                       | 1.2   | 0  |
| Hanford RP                  | Three 55-gallon drums overpacked in an RH-TRU waste canister  | 525                                       | 26  | 464                                      |
| INL                         | Directly loaded 55-gallon drums   | 131                                       | 37  | 0  |
|                             | Directly loaded 100-gallon drums  | 119.8                                     | 0   | 0  |
|                             | Ten 55-gallon drums overpacked in a TDOP  | 208                                       | 24  | 0  |
|                             | Four 55-gallon drums overpacked in an SWB   | 211                                       | 16  | 0  |
|                             | Three 55-gallon drums overpacked in an RH-TRU waste canister  | 525                                       | 26  | 464                                      |
|                             | Three 30-gallon drums overpacked in an RH-TRU waste canister  | 498                                       | 0   | 464                                      |
| LANL                        | Three 15-gallon drums overpacked in one 55-gallon drum  | 262                                       | 37  | 0  |
|                             | One 30-gallon drum overpacked in one 55-gallon drum   | 207                                       | 37  | 0  |
|                             | Other/unknown containers overpacked in 55-gallon drums  | 131                                       | 37  | 0  |
|                             | Crates, fiberglass-reinforced polyethylene (FRP) boxes, and other/unknown large containers into SWBs or standard large boxes (SLBs) | 154                                       | 1.2   | 0  |
|                             | Repackaging crates, FRP boxes, and other/unknown large containers into SWBs   | 154                                       | 1.2   | 0  |
| ANL-E                       | Three 30-gallon drums overpacked in an RH-TRU waste canister  | 481                                       | 15  | 464                                      |
| ANL-W                       | Three 45-gallon drums overpacked in an RH-TRU waste canister  | 511                                       | 21  | 464                                      |
| BCL                         | Three 55-gallon drums overpacked in an RH-TRU waste canister  | 770                                       | 17  | 464                                      |
| ETEC                        | Three 55-gallon drums overpacked in an RH-TRU waste canister  | 525                                       | 26  | 464                                      |
| KAPL                        | Three 55-gallon drums overpacked in an RH-TRU waste canister  | 525                                       | 26  | 464                                      |
| LLNL                        | Repackaging large boxes into SWBs or SLBs   | 154                                       | 0   | 0  |
| PGDP                        | Four 55-gallon drums overpacked in an SWB   | 212                                       | 17.5  | 0  |

See the TWBIR - 2004 and the acronym section of this report.
 This is the packaging configuration determined to be acceptable for shipment to and disposal in WIPP.
 These are the new packaging material densities as calculated, in the routine calculations listed in Table D-1.

# **D-3.1 Hanford Richland Packaging Material Densities**

Hanford Richland (RL) originally reported 229 contact-handled (CH)-TRU and 119 RH-TRU waste streams (ERMS# 526736). The site had misinterpreted the "R" in one of their database fields to mean RH-TRU waste when it actually indicated that the waste was radioactive. The result was that Hanford RL actually had 306 CH-TRU waste streams and 42 RH-TRU waste streams. Therefore, 77 waste streams required a change in the shipping container from a RH-TRU waste canister to other packaging acceptable for CH-TRU waste shipment and disposal. As a result, the packaging material densities for the 77 CH-TRU waste streams were recalculated. Hanford RL submitted updated information indicating the appropriate shipping containers (Cooney 2003). The new shipping containers were directly loaded 55-gallon drums and SWBs. The packaging material densities for the 55-gallon drums and SWBs were determined as shown in Sections D-2.1 and D-2.4, respectively.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste Material Densities, Container Material Densities, and Radionuclide Concentrations for Corrected Hanford (RL) Waste Streams for the Compliance Recertification Application* (Lott and Leigh, 2003a). The packaging material densities for these 77 waste streams were adjusted according to the results of this calculation.

# D-3.2 Hanford River Protection Packaging Material Densities

Hanford River Protection (RP) originally reported two of its waste streams in a way that did not reflect the volume that the waste will occupy when disposed in WIPP (ERMS #526473). Specifically, Hanford RP intends to ship these waste streams in 55-gallon drums overpacked in RH-TRU waste canisters. However, the waste volume reported was determined using the internal volume of the three 55-gallon drums ( $3 \times 0.21 = 0.63 \text{ m}^3$ ) instead of the volume of the RH-TRU waste canister ( $0.89 \text{ m}^3$ ), which is representative of the volume of waste to be emplaced in WIPP. The waste stream volume and the packaging material densities were recalculated based on the volume of the RH-TRU waste canister ( $0.89 \text{ m}^3$ ), as shown in Section D-2.7 for three 55-gallon drums overpacked in an RH-TRU waste canister.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for RP RH TRU Waste Streams RP-W013 and RP-W016 for the Compliance Recertification Application* (Lott and Leigh 2003b). The packaging material densities for these two RH-TRU waste streams were adjusted according to the results of this calculation.

### D-3.3 Idaho National Laboratory Packaging Material Densities

Idaho National Laboratory (INL) originally reported several of its waste streams in a way that did not reflect the volume that the waste will occupy when disposed in WIPP. Three routine calculations were developed for the INL waste streams. The first focuses on the supercompacted waste stream originating from the Advanced Mixed Waste Treatment Facility (AMWTF). The second routine calculation discusses the non-debris waste streams from the AMWTF. The third routine calculation covers 13 other INL waste streams for which the packaging configurations did not reflect the volume that the waste will occupy in WIPP. These three routine calculations consistently estimate the packaging material densities for each of the disposal container types and are referenced and summarized below.

### D-3.3.1 Super-Compacted Debris Waste Stream IN-BN-510

The density of steel was calculated based on information received from INL about empty drum weight (100 lbs) and numbers of drums in the IN-BN-510 waste stream (Lott and Leigh, 2003c). The resultant density of the empty drums at INL was determined to be 119.7 kg/m<sup>3</sup>.

# D-3.3.2 Advanced Mixed Waste Treatment Facility Non-Debris Waste Streams

The INL reported 38 non-debris waste streams originating from the AMWTF (Wells 2003). However, updated information from INL (Leigh 2003) revealed changes in the shipping container type and a resulting change in the volume of waste to be received at the WIPP. Specifically, INL originally reported only TDOPs as shipping containers, but its updated information identified both TDOPs and SWBs as shipping containers for each waste stream. Therefore, there were two cases considered regarding packaging material densities: ten 55-gallon drums overpacked in a TDOP, and four 55-gallon drums overpacked in an SWB.

The steel packaging material densities reported in the original submittal from INL were calculated based on the original densities given by the site that were based on the total waste stream volumes, and the total volume of the TDOP (4.79 m³). However, INL updated its information indicating that each waste stream would be packaged in 55-gallon drums that would then be overpacked in SWBs and TDOPs. Therefore, the packaging material densities were recalculated based on the number of TDOPs and SWBs for each waste stream as given by INL in its updated information. Further, the original calculations were done using the actual volume of ten 55-gallon drums of waste (2.08 m³) instead of the volume that the waste actually occupies (4.79 m³). As a result, the mass of steel did not vary for the TDOP, but the volume increased, causing the steel packaging material density to decrease from 480 kg/m³ to 208 kg/m³. The plastic packaging material density originally reported by INL varied by waste stream. However, the mass of plastic did not change and, for most of the waste streams, the plastic packaging material density decreased from 55 kg/m³ to 24 kg/m³.

For the SWBs, the steel and plastic packaging material densities were calculated in the routine calculation based on the volume of the SWB (1.89 m<sup>3</sup>), as shown in Section D-2.6, for four 55-gallon drums overpacked in an SWB.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for Non-Debris AMWTF Waste Streams at INEEL for the Compliance Recertification Application* (Leigh and Lott 2003d). The packaging material densities for these 38 waste streams were adjusted according to the results of this calculation.

# D-3.3.3 Idaho National Laboratory Waste Streams Requiring Overpacking

The INL reported its waste streams based, for the most part, on the current packaging configuration of the waste. For 13 of its waste streams, the current packaging configuration did not match the intended shipping configuration. For example, 55-gallon drums were reported, but INL actually intends to ship these drums inside SWBs.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Final Form Values For IN-AE-AGHC-01, IN-INTEC-SFS-01, IN-NRF-153, IN-W219.914, IN-W322.851, IN-W323.562, IN-W337.957, IN-W341.954, IN-W342.652, IN-W358.854, IN-W358.949, IN-W372.832, and IN-W372.918 for the Compliance Recertification Application* (Fox and Lott 2003). The packaging material densities for these 13 waste streams were adjusted according to the results of this calculation. The calculations needed for the packaging material densities for these INL waste streams in the routine calculation are summarized below.

# D-3.3.3.1 Overpacking Three 55-Gallon Drums into a Remote-Handled Transuranic Waste Canister

The packaging configuration for two of the 13 INL waste streams was determined to be three 55-gallon drums overpacked in an RH-TRU waste canister. Therefore, the steel and plastic packaging material densities were determined in the routine calculation based on the volume of the RH-TRU waste canister (0.89 m³), as shown in Section D-2.7 for three 55-gallon drums overpacked in an RH-TRU waste canister. The packaging material densities were calculated to be steel, 525 kg/m³; plastic, 26 kg/m³; and lead, 464 kg/m³.

# D-3.3.3.2 Overpacking Three 30-Gallon Drums into a Remote-Handled Transuranic Waste Canister

The packaging configuration for three of the 13 INL waste streams was determined to be three 30-gallon drums overpacked in an RH-TRU waste canister. Therefore, the steel and plastic packaging material densities were determined in the routine calculation based on the volume of the RH-TRU waste canister (0.89 m³). The calculation is similar to that shown in Section D-2.7 for three 55-gallon drums overpacked in an RH-TRU waste canister, except that the total weight of steel for this case was determined based on the steel packaging material density given by the site for the 30-gallon drum (168 kg/m³). The resulting steel packaging material density was 498 kg/m³. Since the only source of lead is the RH-TRU waste canister, the lead packaging material density is 464 kg/m³, as calculated in Section D-2.7. No plastic packaging was reported by the site for the 30-gallon drums.

# D-3.3.3.3 Overpacking Four 55-Gallon Drums into a Standard Waste Box

The packaging configuration of the remaining eight INL waste streams was determined to be four 55-gallon drums overpacked in a SWB. Therefore, the steel and plastic packaging material densities were calculated in the routine calculation, as shown in Section D-2.6, for four 55-gallon drums overpacked in an SWB.

### D-3.4 Los Alamos National Laboratory Packaging Material Densities

Los Alamos National Laboratory (LANL) reported its waste streams based on the current packaging configuration of the waste. Of the 63 waste streams reported by LANL, 33 were reported with unacceptable containers for shipment to WIPP in the TRUPACT-II (DOE 2004a). Of the 33 waste streams, 27 waste streams were reported with containers that require overpacking prior to shipment, and six waste streams have container types that will require repackaging prior to shipment.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste Material Densities, Container Material Densities, and Radionuclide Concentrations for LANL Waste Streams for the Compliance Recertification Application* (Sparks and Leigh 2003). The packaging material densities for these 33 waste streams were adjusted according to the results of this calculation. The calculations needed for the packaging material densities of the LANL waste streams in the routine calculation are summarized below.

# D-3.4.1 Overpacking 15-Gallon Drums into a 55-Gallon Drum

LANL reported 15-gallon drums for one waste stream. In this calculation, it was assumed that three 15-gallon drums would be placed in one 55-gallon drum. The calculated steel packaging material density for one 55-gallon drum and three 15-gallon drums was 262 kg/m<sup>3</sup>. The plastic packaging material density for a 55-gallon drum liner was calculated as shown in Section D-2.1 for a directly loaded 55-gallon drum (37 kg/m<sup>3</sup>).

# D-3.4.2 Overpacking 30-Gallon Drums into 55-Gallon Drums

LANL reported 30-gallon drums for several waste streams. In this calculation, it was assumed that one 30-gallon drum would be placed in one 55-gallon drum. The calculated steel packaging material density for one 55-gallon drum and one 30-gallon drum was 207 kg/m<sup>3</sup>. The plastic packaging material density for a 55-gallon drum liner was calculated as shown in Section D-2.1 for a directly loaded 55-gallon drum (37 kg/m<sup>3</sup>).

# D-3.4.3 Overpacking Small Containers (Including "Other," "Unknown," and "Cardboard Box" into 55-Gallon Drums)

LANL reported other or unknown containers that will fit into 55-gallon drums for several waste streams. Because the container volumes of the other/unknown containers vary by waste stream, and the container materials and dimensions were not provided by the site, the packaging

materials for a directly loaded 55-gallon drum, as shown in Section D-2.1, were used (density of steel =  $131 \text{ kg/m}^3$ , and density of plastic =  $37 \text{ kg/m}^3$ ).

# D-3.4.4 Overpacking Crates, Fiberglass-Reinforced Polyethylene Boxes, or Other/Unknown Large Containers into Standard Waste Boxes or Standard Large Boxes

LANL reported crates, fiberglass-reinforced polyethylene (FRP) boxes, and "other" or "unknown" containers of various sizes. However, since the only acceptable large shipping containers are the SWB and the SLBs, all crates, FRP boxes, and unknown/other containers that will fit into the SWBs and SLBs must be overpacked into the SWBs or SLBs.

Because the container volumes of the crates, FRP boxes, and other/unknown containers varied by waste stream, and the container materials and dimensions were not provided by LANL, the packaging material densities for a directly loaded SWB, as shown in Section D-2.4, were used in the routine calculation for the SLBs.

# D-3.4.5 Repackaging (Size Reduction) of Crates, Fiberglass-Reinforced Polyethylene Boxes, or Other/Unknown Large Containers into Standard Waste Boxes

LANL reported large containers (greater than the volume of the SLB) for six waste streams. In order for LANL to ship these waste streams to the WIPP, it will have to "size-reduce" the waste (including the original waste containers) and directly load the size-reduced waste and containers into SWBs.<sup>3</sup> Therefore, the steel and plastic packaging densities associated with the SWBs, as described in Section D-2.4, were used.

# D-3.5 Argonne National Laboratory-East Packaging Material Densities

Argonne National Laboratory-East (ANL-E) reported a packaging configuration for waste stream AE-T009 as three 30-gallon drums overpacked in a RH-TRU waste canister (Crawford 2003a). The volume of RH-TRU waste originally reported by ANL-E is the waste volume associated with the 30-gallon drums that will be loaded into the RH-TRU waste canister, which does not reflect the volume of waste that will be disposed in WIPP. Therefore, the steel, plastic, and lead packaging material densities were recalculated based on the volume of the RH-TRU waste canister (0.89 m³). The calculation is similar to that shown in Section D-2.7 for three 55-gallon drums overpacked in an RH-TRU waste canister, except that the total weight of steel for this case was determined based on the steel packaging material density given by the site for the 30-gallon drums (124.4 kg/m³). The resulting steel packaging material density was 481 kg/m³.

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<sup>&</sup>lt;sup>1</sup> Development of the TRUPACT-III, which will allow shipment of the SLBs to WIPP for disposal is under way. According to DOE guidance (DOE 2003), inventory estimates for the CRA-2004 allow the use of the SLB as a payload container for WIPP.

The SLBs are sometimes generically referred to as " $5 \times 5 \times 8$  boxes," where the units of measure are in feet. The SLBs are in the preliminary design stage and only preliminary specifications are available. Therefore, the volume of the  $5 \times 5 \times 8$ -foot box, 5.66 m<sup>3</sup>, was used in the routine calculation as a close approximation of the internal volume of the SLB.

<sup>&</sup>lt;sup>3</sup> Repackaging into the SLBs is not considered in the routine calculation because the SWBs are currently approved and available for this use and the SLBs are not.

Since the lead is contributed entirely by the RH-TRU waste canister, the lead packaging material density is 464 kg/m<sup>3</sup>, as calculated in Section D-2.7. The density of plastic was also given by the site (39.9 kg/m<sup>3</sup>), and this was used to determine the plastic packaging density (15 kg/m<sup>3</sup>).

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for AE-T009 at ANL-E for the Compliance Recertification Application* (Trone and Sparks 2003a). The packaging material densities for this RH-TRU waste stream were adjusted according to the results of this calculation.

# D-3.6 Argonne National Laboratory-West Packaging Material Densities

Argonne National Laboratory-West (ANL-W) reported a packaging configuration for eight waste streams as three 45-gallon drums overpacked in a RH-TRU waste canister (Crawford 2003b). The volume of RH-TRU waste originally reported by ANL-W is the waste volume associated with the 45-gallon drums that will be loaded into the RH-TRU waste canister, which does not reflect the volume of waste that will be disposed in WIPP. Therefore, the steel, plastic, and lead packaging material densities were recalculated based on the volume of the RH-TRU waste canister (0.89 m³). The calculation is similar to that shown in Section D-2.7 for three 55-gallon drums overpacked in a RH-TRU waste canister, except that the total weight of steel for this case was determined assuming the 45-gallon drums weighed 23 kg (51 lbs) each and that the mass of steel in a RH-TRU waste canister was 386 kg (851 lbs). The resulting steel packaging material density was 511 kg/m³. Since the only source of lead is the RH-TRU waste canister, the lead packaging material density is 464 kg/m³, as calculated in Section D-2.7. The density of plastic (21 kg/m³) was determined by first calculating the mass of the plastic liner for a 45-gallon drum (6.3 kg).

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for RH Waste Streams at ANL-W for the Compliance Recertification Application* (Trone and Sparks 2003b). The packaging material densities for these RH-TRU waste streams were adjusted according to the results of this calculation.

# **D-3.7** Battelle Columbus Laboratories Packaging Material Densities

Battelle Columbus Laboratories (BCL) reported 12 RH-TRU waste streams. Specifically, BCL reported that the RH-TRU waste would be packaged in 55-gallon drums, and that those drums would be configured in a five-drum pallet inside the ChemNuclear Systems (CNS) 10-160B shipping container for shipment to WIPP (Crawford 2003c). The volumes of RH-TRU waste originally reported are those associated with the 55-gallon drums that will be loaded into the CNS 10-160B package. Ultimately, the 55-gallon drums will be taken to the WIPP RH-TRU waste hot cell and placed in a RH-TRU waste canister for disposal. Therefore, the steel, plastic, and lead packaging material densities were recalculated based on the materials and volume of the RH-TRU waste canister (0.89 m³). The calculation is similar to that shown in Section D-2.7 for

three 55-gallon drums overpacked in an RH-TRU waste canister, except that the total weight of steel for this case was determined based on the steel packaging material density given by the site for the 55-gallon drums (481 kg/m³). The resulting steel packaging material density for the RH-TRU waste canister with three 55-gallon drums in it was 770 kg/m³. Since the lead is contributed entirely by the RH-TRU waste canister, the lead packaging material density is 464 kg/m³, as calculated in Section D-2.7. The density of plastic was also given by the site (24 kg/m³), and this was used to determine the plastic packaging density (17 kg/m³) based on the updated volume.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for RH Waste Streams at BCL for the Compliance Recertification Application* (Trone and Sparks 2003c). The packaging material densities for these RH-TRU waste streams were adjusted according to the results of this calculation.

# D-3.8 Energy Technology Engineering Center Packaging Material Densities

Energy Technology Engineering Center (ETEC) reported two RH-TRU waste streams, and that the RH-TRU waste will first be packaged in 55-gallon drums, then placed in RH-TRU waste canisters for shipment to WIPP (Crawford 2003d). The volumes of RH-TRU waste in the ETEC waste streams originally reported are the waste volumes associated with the 55-gallon drums loaded into the RH-TRU waste canister. Therefore, the steel, plastic, and lead packaging material densities were recalculated based on the materials and volume of the RH-TRU waste canister (0.89 m³). The calculation is the same as that shown in Section D-2.7 for three 55-gallon drums overpacked in a RH-TRU waste canister. The resulting steel packaging material density for the RH-TRU waste canister with three 55-gallon drums in it was 525 kg/m³. Since the lead is contributed entirely by the RH-TRU waste canister, the lead packaging material density is 464 kg/m³, as calculated in Section D-2.7. The density of plastic was also given by the site (37 kg/m³), and this was used to determine the plastic packaging density (26 kg/m³).

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for ET-R1-DLR and ET-R2-D107 at ETEC for the Compliance Recertification Application* (Trone and Sparks 2003d). The packaging material densities for these RH-TRU waste streams were adjusted according to the results of this calculation.

### D-3.9 Knolls Atomic Power Laboratory Packaging Material Densities

Knolls Atomic Power Laboratory (KAPL) (Schenectady, NY) reported two RH-TRU waste streams, and that the RH-TRU waste will be packaged in 55-gallon drums and then placed in RH-TRU waste canisters for shipment to WIPP (Crawford 2003e). The volumes of RH-TRU waste in the KAPL waste streams originally reported are the waste volumes associated with the 55-gallon drums that will be loaded into the RH-TRU waste canister. Therefore, the steel, plastic, and lead packaging material densities were recalculated based on the materials and volume of the RH-TRU waste canister (0.89 m³). The calculation is similar to that shown in

Section D-2.7 for three 55-gallon drums overpacked in an RH-TRU waste canister, except that the total weight of steel for this case was determined based on the steel packaging material density given by the site for the 55-gallon drums (131 kg/m³). The resulting steel packaging material density for the RH-TRU waste canister with three 55-gallon drums in it was 525 kg/m³. Since the lead is contributed entirely by the RH-TRU canister, the lead packaging material density is 464 kg/m³, as calculated in Section D-2.7. The density of plastic was also given by the site (37 kg/m³) and used to determine the plastic packaging density (26 kg/m³).

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for KA-T001 and KA-W016 at KAPL for the Compliance Recertification Application* (Trone and Sparks 2003e). The packaging material densities for these RH-TRU waste streams were adjusted according to the results of this calculation.

# **D-3.10** Lawrence Livermore National Laboratory Packaging Material Densities

Lawrence Livermore National Laboratory (LLNL) reported three CH-TRU waste streams containing over-sized boxes. These three waste streams are currently stored in miscellaneoussized boxes that cannot be used as payload containers for shipment to and disposal in WIPP (Crawford 2003f). The volumes reported by LLNL are the waste volumes associated with the current storage configuration in various sized boxes. Therefore, acceptable shipping containers and the updated packaging material densities were needed. Each of the three waste streams will be shipped and disposed in 55-gallon drums, SWBs, and SLBs. The packaging materials reported for the 55-gallon drums did not change, since the drums did not require repackaging or overpacking. However, the miscellaneous-sized boxes require repackaging. The steel originally reported as packaging material for the waste becomes waste material after repackaging and was added to the Iron-Base Metal/Alloys category. The steel packaging associated with shipping containers was simply the steel packaging for the shipping container (either a 55-gallon drum, SWB, or SLB). The SLB is a new box that will likely be used for repackaging LLNL waste. Because the SLB is still being designed (see Section D-3.4.5) and it has no set specifications, the packaging material densities for a directly loaded SWB, as shown in Section D-2.4, were used in the routine calculation for the SLBs. Therefore, the steel packaging material density was 154 kg/m<sup>3</sup> for both SWBs and SLBs. The calculation assumed no plastic packaging for the SWBs and SLBs.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for LL-T002, LL-T005, and LL-T034 for the Compliance Recertification Application* (Leigh and Sparks 2003). The packaging material densities for these CH-TRU waste streams were adjusted according to the results of this calculation.

### D-3.11 Paducah Gaseous Diffusion Plant Packaging Material Densities

Paducah Gaseous Diffusion Plant (PGDP) reported one CH-TRU waste stream, which will be packaged in 55-gallon drums and then be placed in SWBs for shipment to and disposal in WIPP

(Crawford 2003g). The volume of the waste in this waste stream is the waste volume associated with the 55-gallon drums that will be loaded into the SWB, which does not reflect the volume of waste that will be disposed in WIPP. Therefore, the volume of waste was recalculated in the routine calculation identified below. Because the steel and plastic packaging material densities reported by the site corresponded to the packaging configuration for four 55-gallon drums overpacked in an SWB (steel and plastic packaging material densities were reported as 212 kg/m³, and 17.5 kg/m³, respectively), they were not recalculated in the routine calculation.

The updated volume of waste that will be received at the WIPP, the corresponding waste and packaging material densities, and the radionuclide concentrations were determined and documented in *Calculation of Waste Stream Volumes, Waste and Container Material Densities, and Radionuclide Concentrations for PA-A015 at PGDP for the Compliance Recertification Application* (Trone and Sparks 2003f). The packaging material densities for these CH-waste streams were adjusted according to the results of this calculation.

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## APPENDIX E

WASTE STREAM LEVEL RADIONUCLIDE ACTIVITIES FOR THE COMPLIANCE RECERTIFICATION APPLICATION

Appendix E - i -

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### E-1.0 INTRODUCTION

This appendix consists of two tables. They provide the decayed radionuclide inventory by waste stream for waste streams included in Appendix J and Appendix K. The volumes and activities in CRA Tables E-1 and E-2 have been scaled to a full repository in accordance with the Transuranic Waste Inventory Update Report, 2003 Computational Methodology (LANL 2003). These tables are similar to the Transuranic Waste Baseline Inventory Report, Revision 3 (DOE 1996 Appendix B, Table 1). Both tables contain all 767 waste streams reported in the Transuranic Waste Baseline Inventory Database, Revision 2.1 Version 3.13 Data Version D.4.16 (LANL 2005) and the activity in each waste stream for 20 radionuclides specified in the Giambalvo letter (Giambalvo 2002). The projected volume has been scaled (using the scaling factors found in Table 3 of the main body) in each waste stream such that the sum of all waste stream volumes equals a full WIPP repository for CH and RH waste. The radionuclides have been decayed to December 31, 2001.

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Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID      | Volume  | Am-241   | Am-243   | Cm-244   | Cs-137     | Np-237    | Pu-238   | Pu-239   | Pu-240   |
|-----------|--------------|---------|----------|----------|----------|------------|-----------|----------|----------|----------|
|           | AE-T001      | 189.43  |          | AIII 240 | OIII 244 | 4.40E+00   | _         | 1.47E+01 | 1.73E+02 |          |
| -         | AE-T003      |         | 5.95E+00 |          |          | 1.24E-02   |           | 2.01E+00 |          |          |
| -         | AW-N026.82   | 0.21    | 0.002100 |          |          | 3.03E-01   | 2.7 12 02 | 2.012100 | 0.102101 | 2.112.01 |
| -         | AW-N027.531  | 11.97   | 3.48E-02 |          |          | 0.002 01   | 1 12F-08  | 5.14E+01 | 3 90F+01 | 2.36E-01 |
| -         | AW-T033.1325 | 38.22   | 1.11E-01 |          |          |            |           |          | 1.25E+02 | 7.53E-01 |
| -         | AW-W049      | 12.81   |          |          |          |            | 0.002 00  | 1.012102 | 5.51E-01 | 7.002 01 |
|           | BCLCH-MT01   |         | 6.49E+00 |          |          |            |           | 1.78E+03 | 2.87E+01 | 7.54F+00 |
| -         | BT-T002      |         | 8.43E-03 | 3.96E-05 | 2.53F-03 | 2.14E+01   | 5.64E-05  |          | 7.25E-04 |          |
| -         | ET-C1-B55    |         | 4.83E-02 | 0.002 00 | 2.002 00 | 2.1 12 101 | 1.90E-07  | 1.06E-02 | 6.21E-02 |          |
| -         | ET-C1-D139   | 0.21    |          |          |          |            | 2.82E-08  |          | 8.73E-03 |          |
|           | ET-C2-SEFOR  | 1.25    |          |          |          | 1.62E-02   | 7.74E-07  | 1.112 00 | 1.37E-01 |          |
|           | IN-BN-510    |         | 9.75E+03 | 6.05E-03 |          | 1.022 02   |           | 5.45E+04 |          | 7.20E+03 |
|           | IN-GEM-01    | 145.92  |          | 0.002 00 |          |            | 2.172 01  | 7.12E-01 |          | 7.30E+00 |
|           | IN-GEM-02    |         | 1.56E+01 |          |          |            |           | 1.69E-01 |          | 1.73E+00 |
|           | IN-ICP-002   |         | 3.89E+04 | 2 99F+01 |          |            | 1.00F+00  | 2.97E+03 |          |          |
|           | IN-ICP-003   |         | 1.64E+04 |          |          |            |           | 1.25E+03 |          | 1.61E+03 |
|           | IN-ICP-004   |         | 3.38E+03 |          |          |            |           | 2.58E+02 |          |          |
|           | IN-ICP-005   |         | 2.26E+04 |          |          |            |           | 1.72E+03 |          |          |
|           | IN-W157.144  |         | 7.30E+01 | 11102101 |          |            |           | 9.08E+00 |          |          |
|           | IN-W163.1007 |         | 5.47E+00 |          |          |            |           | 2.83E+00 | 8.68E+01 |          |
|           | IN-W164.153  |         | 5.20E-02 |          |          |            | 1.22E-07  |          | 8.23E-01 | 1.82E-01 |
|           | IN-W167.149  |         | 1.62E+01 |          |          |            |           | 4.36E+00 |          |          |
| -         | IN-W174.154  | 431.07  |          |          |          |            | 0.2.2     |          | 1.79E+00 |          |
| -         | IN-W177.156  |         | 7.24E-03 |          |          |            | 1.69F-08  | 5.26E+03 |          |          |
| -         | IN-W179.158  |         | 4.87E-02 |          |          |            |           | 5.22E+03 |          |          |
| -         | IN-W181.162  |         | 2.53E+00 |          |          |            | 5.91E-06  |          | 2.72E+01 |          |
| -         | IN-W188.160  |         | 4.64E+00 |          |          |            |           | 2.39E+00 | 7.36E+01 |          |
| -         | IN-W216.98   |         | 1.60E+05 |          |          |            |           | 1.95E+02 |          | 1.32E+03 |
| -         | IN-W218.909  | 2082.75 |          |          |          |            |           | 1.04E+01 | 3.25E+02 |          |
| -         | IN-W219.110  |         | 4.51E-01 |          |          |            | 1.05E-06  | 1.55E-01 |          | 1.10E+00 |
| IN        | IN-W219.914  | 1.89    | 7.10E-02 |          |          |            | 1.66E-07  | 2.44E-02 | 7.67E-01 | 1.74E-01 |
| IN        | IN-W220.114  | 1892.55 | 5.65E+03 |          |          |            | 2.40E-02  | 1.54E+01 | 5.07E+02 | 1.08E+02 |
| IN        | IN-W221.927  | 39.20   | 1.73E+00 |          |          |            | 4.04E-06  | 8.88E-01 | 2.73E+01 | 6.03E+00 |
| IN        | IN-W222.116  | 259.02  | 6.01E+01 |          |          |            | 1.44E-04  | 3.01E+01 | 9.24E+02 | 2.04E+02 |
| IN        | IN-W228.101  | 8063.41 | 1.46E+03 |          |          |            | 6.16E-03  | 9.82E+00 | 3.01E+02 | 6.66E+01 |
| IN        | IN-W240.931  | 396.66  | 9.12E+01 |          |          |            | 3.41E-04  | 1.25E+01 | 3.85E+02 | 8.48E+01 |
| IN        | IN-W243.808  | 773.28  | 9.94E+01 |          |          |            | 3.41E-04  | 2.20E+01 | 6.75E+02 | 1.49E+02 |
| IN        | IN-W245.301  | 752.23  | 8.79E+01 |          |          |            | 2.14E-04  | 4.30E+01 | 1.32E+03 | 2.92E+02 |
| IN        | IN-W247.810  | 761.81  | 4.26E+01 |          |          |            | 1.03E-04  | 2.10E+01 | 6.45E+02 | 1.42E+02 |
| IN        | IN-W249.527  | 6.68    |          |          |          |            |           | 1.47E+03 | 1.14E+01 |          |
| IN        | IN-W263.520  | 280.07  | 4.24E-02 |          |          |            | 9.92E-08  | 3.69E+02 | 1.90E+01 | 3.02E-02 |
| IN        | IN-W267.1005 | 11.47   | 9.86E+00 |          |          |            | 2.31E-05  | 5.09E+00 | 1.56E+02 | 3.44E+01 |
| IN        | IN-W309.609  | 7730.78 | 5.53E+02 |          |          |            | 2.04E-03  | 8.60E+01 | 2.63E+03 | 5.77E+02 |
| IN        | IN-W315.601  | 34.41   | 2.19E+03 |          |          |            | 9.30E-03  | 9.04E-01 | 2.84E+01 | 6.42E+00 |
| IN        | IN-W319.584  | 4.79    | 1.52E+00 |          |          |            | 3.56E-06  | 7.87E-01 | 2.40E+01 | 5.31E+00 |
| IN        | IN-W321.1023 | 11.47   | 1.32E+01 |          |          |            | 3.08E-05  | 6.80E+00 | 2.09E+02 | 4.60E+01 |
| IN        | IN-W322.851  | 1.89    |          |          |          |            |           |          | 9.12E+00 | 1.89E+00 |
| IN        | IN-W322.952  | 1.66    |          |          |          |            |           |          | 2.43E+01 | 5.04E+00 |
| IN        | IN-W323.562  | 1.89    | 4.47E-02 |          |          |            | 1.04E-07  | 1.22E+00 | 2.49E-01 |          |
| IN        | IN-W323.951  | 0.21    | 5.28E-02 |          |          |            | 1.23E-07  | 1.45E-02 | 2.97E-01 |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| IN  | 01   00   6.30E-01   00   1.89E+00   02   1.04E-17   02   6.98E-18   01   1.36E+02   02   8.50E+01   00   3.63E+00   01   1.93E+01   00   4.02E+00   01   1.61E+01   02   2.10E+02   01   9.85E+00   01   1.63E+01   01   0.00   01   1.63E+01   01   0.00   01   1.63E+01   01   0.00   0.00   01   0 |
|---|--|
| IN   IN-W337.673   0.21   | 00 6.30E-01<br>00 1.89E+00<br>02 1.04E-17<br>02 6.98E-18<br>01 1.36E+02<br>02 8.50E+01<br>02 01 1.66E-01<br>00 3.63E+00<br>01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN   IN-W337.957   1.89   9.12E-  | 00 1.89E+00<br>02 1.04E-17<br>02 6.98E-18<br>01 1.36E+02<br>02 8.50E+01<br>00 3.63E+00<br>01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01   |
| IN   IN-W342.652   1.89   4.55E+00   1.94E-05   2.69E   IN   IN-W342.953   0.42   3.04E+00   1.29E-05   2.69E   IN   IN-W347.818   153.90   2.64E+00   1.12E-05   7.65E   IN   IN-W348.1012   22.94   2.45E+01   5.76E-05   1.25E+01   3.85E   IN   IN-W353.917   0.21   6.92E-05   2.50E   IN   IN-W357.1022   4.79   4.77E-02   1.12E-07   2.46E-02   7.52E   IN   IN-W358.854   1.89   3.92E+02   1.88E   IN   IN-W358.855   3.33   2.09E+03   1.09E   IN   IN-W358.948   0.21   4.65E+00   1.09E-05   2.38E+00   7.30E   IN   IN-W362.1020   45.88   6.02E+01   1.41E-04   3.11E+01   9.54E   IN   IN-W363.1019   4.79   2.83E+00   6.62E-06   1.46E+00   4.49E   IN   IN-W364.1011   4.79   4.67E+00   1.09E-05   2.41E+00   7.37E   IN   IN-W365.1010   11.47   3.52E+02   1.49E-03   1.91E+00   5.88E   IN   IN-W366.841   16.26   4.38E+00   1.26E-05   1.63E+00   4.97E   IN   IN-W372.832   1.89   4.55E+00   1.94E-05   4.02E   IN   IN-W375.1096   199.78   1.16E+00   1.63E+00   2.72E-06   6.00E-01   1.84E   IN   IN-W375.1096   199.78   1.16E+00   1.63E+00   2.10E-05   4.16E+00   5.85E   IN   IN-W375.1096   199.78   1.16E+00   1.63E+00   2.10E-05   4.16E+00   5.85E   IN   IN-W375.1096   199.78   1.16E+00   1.63E+00   2.10E-05   4.16E+00   5.85E   IN   IN-W375.1096   1.99.78   2.35E+00   1.63E+00   2.10E-05   4.16E+00   5.85E   IN   IN-W375.1096   1.09E-01   1.00E-05   4.16E+00   5.00E-01   1.00E-05   4.16E+00   5.00E-01   1.00E-05   4.16E+00   5.00E-01   1.00E-05   4.10E-05   4.10E-05 | 1.04E-17<br>1.02   |
| IN  | 02 6.98E-18<br>01 1.36E+02<br>02 8.50E+01<br>02<br>01 1.66E-01<br>00 3.63E+00<br>01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN  | 01 1.36E+02<br>02 8.50E+01<br>02 01 1.66E-01<br>00 3.63E+00<br>01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN  | 02 8.50E+01<br>02 01 1.66E-01<br>00 3.63E+00<br>01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01   |
| IN  | 02   |
| IN  | 1.66E-01<br>1.66E-01<br>1.93E+00<br>1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN  | 3.63E+00<br>0.1 1.93E+01<br>0.0 4.02E+00<br>0.1 1.61E+01<br>0.2 2.10E+02<br>0.1 9.85E+00<br>0.1 1.63E+01   |
| IN  | 01 1.93E+01<br>00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01   |
| IN  | 00 4.02E+00<br>01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN  | 01 1.61E+01<br>02 2.10E+02<br>01 9.85E+00<br>01 1.63E+01   |
| IN  | 22 2.10E+02<br>01 9.85E+00<br>01 1.63E+01  |
| IN  | 9.85E+00<br>01 1.63E+01  |
| IN  | 01 1.63E+01  |
| IN       IN-W365.1010       11.47       3.52E+02       1.49E-03       1.91E+00       5.88E-10         IN       IN-W366.841       16.26       4.38E+00       1.26E-05       1.63E+00       4.97E-10         IN       IN-W372.832       1.89       4.55E+00       1.94E-05       4.02E-10         IN       IN-W375.1096       199.78       1.16E+00       2.72E-06       6.00E-01       1.84E-10         KN       KN-B234TRU       310.50       1.08E+02       1.63E+00       2.10E-05       4.16E+00       5.85E-10         LA       LA-IT-00-01       9.78       2.35E+00       1.63E+00       2.10E-05       4.16E+00       5.85E-10         LA       LA-OS-00-01       50.20       3.77E+03       1.22E-03       1.34E+05       8.90E-10         LA       LA-PX-00-01       0.62       1.62E-02       2.99E-08       8.01E-03       9.05E-10         LA       LA-SL-00-01       0.42       5.14E-03       1.69E-01       1.53E-10   |  |
| IN         IN-W366.841         16.26         4.38E+00         1.26E-05         1.63E+00         4.97E-1           IN         IN-W372.832         1.89         4.55E+00         1.94E-05         4.02E-1           IN         IN-W375.1096         199.78         1.16E+00         2.72E-06         6.00E-01         1.84E-1           KN         KN-B234TRU         310.50         1.08E+02         1.63E+00         1.84E+01         2.19E-1           LA         LA-IT-00-01         9.78         2.35E+00         1.63E+00         2.10E-05         4.16E+00         5.85E-1           LA         LA-OS-00-01         50.20         3.77E+03         1.22E-03         1.34E+05         8.90E-1           LA         LA-PX-00-01         0.62         1.62E-02         2.99E-08         8.01E-03         9.05E-1           LA         LA-SL-00-01         0.42         5.14E-03         1.69E-01         1.53E-1  | 01 1.29E+01  |
| IN     IN-W372.832     1.89 4.55E+00     1.94E-05     4.02E-       IN     IN-W375.1096     199.78 1.16E+00     2.72E-06 6.00E-01 1.84E-       KN     KN-B234TRU     310.50 1.08E+02     1.63E+00     2.10E-05 4.16E+00 5.85E-       LA     LA-IT-00-01     9.78 2.35E+00     1.63E+00     2.10E-05 4.16E+00 5.85E-       LA     LA-OS-00-01     50.20 3.77E+03     1.22E-03 1.34E+05 8.90E-       LA     LA-PX-00-01     0.62 1.62E-02     2.99E-08 8.01E-03 9.05E-       LA     LA-SL-00-01     0.42     5.14E-03 1.69E-01 1.53E-  | 01 1.09E+01  |
| IN     IN-W375.1096     199.78     1.16E+00     2.72E-06     6.00E-01     1.84E-       KN     KN-B234TRU     310.50     1.08E+02     1.84E+01     2.19E-       LA     LA-IT-00-01     9.78     2.35E+00     1.63E+00     2.10E-05     4.16E+00     5.85E-       LA     LA-OS-00-01     50.20     3.77E+03     1.22E-03     1.34E+05     8.90E-       LA     LA-PX-00-01     0.62     1.62E-02     2.99E-08     8.01E-03     9.05E-       LA     LA-SL-00-01     0.42     5.14E-03     1.69E-01     1.53E-   |  |
| LA       LA-IT-00-01       9.78       2.35E+00       1.63E+00       2.10E-05       4.16E+00       5.85E-00         LA       LA-OS-00-01       50.20       3.77E+03       1.22E-03       1.34E+05       8.90E-00         LA       LA-PX-00-01       0.62       1.62E-02       2.99E-08       8.01E-03       9.05E-00         LA       LA-SL-00-01       0.42       5.14E-03       1.69E-01       1.53E-00  |  |
| LA       LA-IT-00-01       9.78       2.35E+00       1.63E+00       2.10E-05       4.16E+00       5.85E-00         LA       LA-OS-00-01       50.20       3.77E+03       1.22E-03       1.34E+05       8.90E-00         LA       LA-PX-00-01       0.62       1.62E-02       2.99E-08       8.01E-03       9.05E-00         LA       LA-SL-00-01       0.42       5.14E-03       1.69E-01       1.53E-00  | 02 7.36E+01  |
| LA     LA-PX-00-01     0.62     1.62E-02     2.99E-08     8.01E-03     9.05E-       LA     LA-SL-00-01     0.42     5.14E-03     1.69E-01     1.53E-  |  |
| LA LA-SL-00-01 0.42 5.14E-03 1.69E-01 1.53E-  | 02   |
|   | 02 2.13E-02  |
|   | )1   |
| LA LA-TA-03-12   221.33   1.91E-01   8.39E-06     8.28E-09   1.12E-05   3.91E+00   4.36E-   | 01 1.52E-01  |
| LA LA-TA-03-13 46.38 2.46E-01 1.09E-04 1.10E-05 1.24E+01 6.81E-   | 01 1.60E-01  |
| LA LA-TA-03-19 179.85 5.18E-01 4.05E-04 3.73E-05 1.85E+01 1.33E-  | 00 3.85E-01  |
| LA LA-TA-03-20 30.07 2.64E-01 8.81E-05 8.78E+00 5.86E-  | 01 2.07E-01  |
| LA LA-TA-03-24 29.95 3.71E-01 5.17E-07 5.49E-05 3.42E+01 1.09E-   | 00 3.31E-01  |
| LA LA-TA-03-26 24.27 1.69E-02 1.08E-07 1.41E+00 2.64E-  | 00 4.33E-02  |
| LA LA-TA-03-28 5.84 4.88E-01 2.47E-   | )1   |
| LA LA-TA-03-30 0.83 7.12E-01 3.98E-06 3.48E-01 5.03E-   | 00 1.46E+00  |
| LA LA-TA-03-31 0.21 1.10E+00 1.05E-05 4.40E-01 2.14E-   | 00 5.20E-03  |
| LA LA-TA-03-40 266.02 2.75E-02 5.47E-   | )2   |
| LA LA-TA-03-42 299.98 1.69E-05 1.03E-10 6.89E-04 3.42E-   | 03 4.51E-05  |
| LA LA-TA-21-06 226.38 1.64E-01 9.54E-07 7.58E+01 9.57E-   | 01 2.93E-01  |
| LA LA-TA-21-12 263.95 6.09E-01 3.73E-06 4.57E+02 3.32E-   | 00 9.94E-01  |
| LA LA-TA-21-13 16.22 1.24E+00 1.28E-05 2.94E-   | )1   |
| LA LA-TA-21-14 7.90 1.24E-04 2.49E-10 8.72E+00 4.49E-   | 00 5.25E-05  |
| LA LA-TA-21-15 3.54 8.78E-02 4.95E-07 2.40E-02 1.39E-   | 00 2.38E-01  |
| LA LA-TA-21-16 71.67 1.05E+00 6.39E-06 3.70E-01 1.06E-  | 01 2.54E+00  |
| LA LA-TA-21-40 1022.49 1.22E-04 5.43E-10 1.65E+00 3.33E-  | 3.70E-04   |
| LA LA-TA-21-41 41.51 7.09E-   | )1   |
| LA LA-TA-21-42 690.71 1.70E-02 3.71E-07 5.36E-01 1.64E-   | 1.12E-02   |
| LA LA-TA-21-43 2533.70 2.54E+03 2.53E-02 6.14E+01 1.77E-  | 03   |
| LA LA-TA-21-44 137.73 7.63E-02 9.27E-08 6.53E+01 1.29E-   | 02 2.60E-01  |
| LA LA-TA-48-01 0.62 8.50E-02 2.62E+01 1.60E-05 1.40E-02 1.18E-  | 01 4.24E-01  |
| LA LA-TA-49-01 96.22 7.84E-03 3.69E-08 1.31E+02 7.44E-  | 01 2.19E-02  |
| LA LA-TA-50-10 1.04 3.27E-02 5.31E-08 1.27E-02 4.59E-   | _  |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| LATA-50-11   | Site_Code | WIPP ID     | Volume  | Am-241   | Am-243   | Cm-244   | Cs-137   | Np-237   | Pu-238   | Pu-239   | Pu-240   |
|--|-----------|-------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| A.   A.   A.   A.   A.   A.   A.   A.  |           | =           |         |          |          |          |          |          |          |          | 1.04E-01 |
| A.   A.   A.   A.   A.   A.   A.   A.  | LA        |             | 159.12  |          |          |          | 7.53E-03 |          |          |          | 7.65E-02 |
| LA   LA-TA-50-18   98.41   1.07E+00   1.07E-00   2.08E-01   2.97E+00   5.38  | LA        |             |         |          | 6.87E-11 |          |          |          |          |          | 3.47E-04 |
| LA   LA-TA-50-19   1179.76   3.118-01   3.808-06   9.188-02   3.958-01   4.59     LA   LA-TA-50-20   0.60   3.378-03   7.438-08   1.268-03   1.668-08   1.248-03   1.668-03   1.478-03     LA   LA-TA-50-40   24.53   3.558-03   1.668-08   1.248-03   1.668-02   1.278-03     LA   LA-TA-60-41   35.91   2.568-03   5.588-03   1.258-03   1.258-03   1.268-03   1.268-03     LA   LA-TA-65-13   2579.88   5.568-00   4.838-09   4.387-05   1.368-03   1.258-03   1.258-03     LA   LA-TA-55-20   450.87   6.928-01   4.698-05   2.278-03   3.328-06   2.168-01   4.578-02   1.018     LA   LA-TA-55-21   98.98   9.938-01   4.698-05   2.278-03   3.328-06   2.168-01   4.578-02   1.018     LA   LA-TA-55-22   14.18   2.328-00   2.338-01   1.258-02   1.358-01   4.578-02   1.018     LA   LA-TA-55-23   1.248   2.148-00   6.508-06   1.028-00   1.098-01   2.718     LA   LA-TA-55-25   22.64   3.578-00   6.188-06   9.338-01   2.888-01   2.888-01     LA   LA-TA-55-26   2.264   3.578-00   6.188-06   9.338-01   2.888-01   2.888-01   2.218-06   6.078-00   1.078-00   2.718     LA   LA-TA-55-30   2.713   3.368-01   7.528-00   1.178-06   2.328-00   1.778-01   8.728-00   2.778     LA   LA-TA-55-32   4.78   3.058-00   1.778-05   2.2518-06   5.778-01   8.728-00   2.778     LA   LA-TA-55-33   6.66   4.648-01   2.858-06   8.338-02   1.498+00   4.788     LA   LA-TA-55-34   2.05.67   3.458-01   1.128-03   3.378+00   1.778-02   4.788     LA   LA-TA-55-34   2.05.67   3.458-01   1.128-03   3.378+00   1.778+02   4.258     LA   LA-TA-55-34   2.05.67   3.458-01   1.128-03   3.378+00   1.778+02   4.258     LA   LA-TA-55-34   2.05.67   3.458-01   1.288-02   1.288-03   3.378+00   1.788+02   2.088-01   1.288-03     LA   LA-TA-55-66   2.288-03   3.088-02   3.388+00   3.388+02   3.788+02   3.788+02   3.788+02   3.388+02   3.78   |           |             |         |          |          |          |          |          |          |          |          |
| LA   LA-TA-50-20   |           |             |         |          |          |          | 3.64E-10 |          |          | 3.95E-01 | 4.59E-03 |
| LA   LA-TA-50-40   |           |             |         |          |          |          |          |          |          |          |          |
| LA   LA-TA-50-41   35.91   2.56E-03   5.90E-09   1.25E-03   4.70E-02   1.10     LA   LA-TA-55-19   2576.98   5.50E-400   4.33E-09   4.33E-05   1.31E-00   2.10E-01   5.40E     LA   LA-TA-55-20   450.87   6.92E-01   1.25E-02   1.30E-00   4.50E-00   1.90E-01     LA   LA-TA-55-21   98.99   8.93E-01   4.69E-05   2.27E-03   3.82E-06   2.16E-01   4.52E+00   1.90E     LA   LA-TA-55-22   14.18   2.32E-00   2.33E-04   1.22E-00   1.09E-01   7.70E     LA   LA-TA-55-23   12.48   2.14E-00   6.50E-06   1.02E-00   1.09E-01   7.70E     LA   LA-TA-55-24   1.25   6.99E-01   1.21E-06   1.60E-06   1.02E-00   1.09E-01   7.70E     LA   LA-TA-55-25   22.264   3.57E-00   6.18E-06   3.00E-00   1.87EE-00   1.50E-01   1.70E-02     LA   LA-TA-55-26   2.246   3.57E-00   6.18E-06   3.00E-00   1.87EE-00   2.70E-00   1.40E-00     LA   LA-TA-55-20   2.713.31   3.06E-00   7.52E-04   1.77E-05   2.32E-04   5.07E-00   1.77E-02   2.84E     LA   LA-TA-55-30   2.713.31   3.06E-00   7.52E-04   1.77E-05   2.32E-04   5.07E-00   1.77E-02   2.84E     LA   LA-TA-55-33   6.66   4.64E-01   2.89E-00   1.84E-05   3.08E-00   1.77E-02   2.84E     LA   LA-TA-55-34   205.67   3.43E-01   2.89E-00   8.93E-02   4.99E-00   1.77E-02   2.84E     LA   LA-TA-55-39   2.91   9.97E-00   2.77E-05   2.01E-00   7.61E-01   7.76E-02     LA   LA-TA-55-44   203.66   1.02E-00   2.91E-03   9.30E-04   2.39E-00   4.48E-01   1.2E     LA   LA-TA-55-44   230.66   1.02E-00   2.91E-03   9.30E-04   2.39E-00   7.48E-01   7.76E-02     LA   LA-TA-55-49   1.18E-01   3.05E-01   1.18E-01   3.05E-00   7.05E-01   7.76E-02   1.25E-03   3.00E-01   7.00E-00     |           |             |         |          |          |          |          |          | 1.24E-03 |          | 4.97E-03 |
| LA   LA-TA-55-19   2576.98   5.56E+00   4.83E-08   4.33E-05   1.31E+00   2.10E+01   5.94E     LA   LA-TA-55-20   450.87   6.92E+01   1.25E-02   1.35E+01   4.52E+00   1.09E     LA   LA-TA-55-21   98.98   9.39E-01   6.90E-05   2.27E-03   3.82E-06   2.16E-01   4.52E+00   1.09E     LA   LA-TA-55-22   14.18   2.32E+00   6.50E-06   1.02E+00   1.09E+01   3.74E     LA   LA-TA-55-23   12.48   2.14E+00   6.50E-06   1.02E+00   1.09E+01   3.74E     LA   LA-TA-55-23   12.48   2.14E+00   6.50E-06   1.02E+00   1.09E+01   3.74E     LA   LA-TA-55-25   2.264   3.57E+00   1.0EE-01   3.2EE-00   1.3EE-00   6.16E-06   9.3SE-01   2.8EE+01   6.72E+00   1.3EE     LA   LA-TA-55-26   2.264   3.57E+00   6.16E-06   9.3SE-01   2.8EE+01   6.7EE-00   1.3EE-01     LA   LA-TA-55-20   2.713.31   3.56E-10   4.77E-05   2.32E-04   5.07E+00   1.17E-02   2.4EE     LA   LA-TA-55-32   4.78   3.05E+00   7.52E-04   1.77E-05   2.32E-04   5.07E+00   1.17E+02   2.4EE     LA   LA-TA-55-34   2.05.67   3.43E+01   2.8E5-06   3.9E-01   1.17E+00   4.7EE     LA   LA-TA-55-34   2.05.67   3.43E+01   2.9EE-03   9.39E-04   2.39E+00   4.7EE-01   4.5EE     LA   LA-TA-55-38   744.30   1.26E+02   2.9EE-03   9.39E-04   2.39E+00   7.6EE+01   1.7EE     LA   LA-TA-55-38   744.30   1.26E+02   2.9EE-03   9.39E-04   2.39E+00   7.6EE+01   1.7EE     LA   LA-TA-55-41   35.38   2.92E+02   1.23E-03   3.37E+00   7.6EE+01   1.8EE     LA   LA-TA-55-43   6.466   6.46E-01   2.7TE-05   2.20E-04   5.00E     LA   LA-TA-55-43   6.466   6.46E-01   2.20E-00   6.60E-00   6.60E-00   6.09E-00   6.00E-00   6.00   |           |             |         |          |          |          |          |          |          |          |          |
| LA LA-TA-55-20   | LA        |             |         |          | 4.83E-09 |          |          |          |          | 2.10E+01 | 5.94E+00 |
| LA LA-TA-55-21 98.99 8.93E-01 4.69E-05 2.27E-03 3.82E-06 2.16E-01 4.52E+00 1.09E LA LA-TA-65-22 14.18 2.32E+00 2.33E-04 1.22E+00 1.59E+01 3.74E LA LA-TA-65-23 12.48 2.14E+00 6.60E-06 6.00E-06 1.02E+00 1.09E+01 2.71E LA LA-TA-55-24 1.25 6.98E-01 1.21E-06 1.60E-01 5.72E+00 1.34E LA LA-TA-55-25 2.2.64 3.57E+00 6.18E-06 9.33E-01 2.84E+01 6.67E LA LA-TA-55-25 2.2.64 3.57E+00 7.52E-04 1.77E-05 2.32E-04 5.07E+00 2.71E-00 2.71E-01 2.71E-00 2.71E-01 2.72E-00 1.14E-01 2.71E-01 2.72E-00 1.14E-01 2.71E-01 2.72E-00 1.72E-01 2.72E-00 2.71E-01 2.72E-00 |           |             |         |          |          |          |          |          |          |          |          |
| LA LA-TA-55-22   |           | LA-TA-55-21 | 98.99   | 8.93E-01 | 4.69E-05 | 2.27E-03 |          |          |          | 4.52E+00 | 1.09E+00 |
| LA LA-TA-55-24   | LA        | LA-TA-55-22 | 14.18   | 2.32E+00 |          |          |          |          |          |          |          |
| LA LA-TA-55-24   |           |             |         |          |          |          |          |          |          |          |          |
| LA LA-TA-55-25   | LA        | LA-TA-55-24 | 1.25    | 6.98E-01 |          |          |          |          |          | 5.72E+00 | 1.34E+00 |
| LA LA-TA-55-28 3.74 1.26E+00 7.52E-04 1.77E-05 2.32E-04 5.07E+00 1.17E+02 2.84E LA LA-TA-55-30 2713.31 3.36E+01 7.52E-04 1.77E-05 2.32E-04 5.07E+00 1.17E+02 2.84E LA LA-TA-55-32 4.78 3.05E+00 1 2.85E-06 8.93E-02 1.49E+00 4.78E LA LA-TA-55-33 6.68 4.64E-01 2.85E-06 8.93E-02 1.49E+00 4.78E LA LA-TA-55-34 205.67 3.43E+01 1.82E-04 6.34E+00 1.77E+02 4.52E LA LA-TA-55-38 744.30 1.26E+02 2.91E-03 9.39E-04 2.39E-00 4.86E-01 1.72E LA LA-TA-55-39 2.91 9.97E+00 2.91E-03 9.39E-04 2.39E-00 4.86E-01 1.21E LA LA-TA-55-39 2.91 9.97E+00 2.91E-03 9.39E-04 2.39E-00 4.86E-01 1.21E LA LA-TA-55-39 2.91 9.97E+00 2.91E-03 9.39E-04 2.39E-00 7.61E-01 1.21E LA LA-TA-55-39 2.91 9.97E+00 2.91E-03 9.39E-04 2.39E-00 7.61E-01 1.21E LA LA-TA-55-41 35.38 2.92E+02 1.23E-03 3.37E+00 7.64E+01 1.84E LA LA-TA-55-43 64.90 7.76E-02 1.85E-07 2.73E+02 1.42E-01 5.00E LA LA-TA-55-43 64.90 7.76E-02 1.85E-07 2.73E+02 1.42E-01 5.00E LA LA-TA-55-44 2.30.66 1.02E+00 6.60E-02 9.77E-02 2.63E-00 7.34E LA LA-TA-55-49 18.30 1.67E+01 1.14E-04 3.34E+03 3.09E-01 1.30E LA LA-TA-55-49 18.30 1.67E+01 1.14E-04 3.34E+03 3.09E-01 8.73E LA LA-TA-55-53 174.68 6.22E+01 3.34E-04 5.77E-00 2.77E-02 2.77E-02 2.57E LA LA-TA-55-60 6.851.9 5.12E-01 5.77E-02 2.34E-05 6.49E-02 2.77E-02 0.51E LA LA-TA-55-61 2.264.9 3.01E-02 1.31E-07 2.99E-01 1.39E-01 4.74E LA LA-TA-55-61 2.264.9 3.01E-02 1.31E-07 2.99E-01 1.39E-01 4.74E LA LA-TA-55-63 5.66 4.64E-03 1.52E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 7.47E-02 1.77E LA LA-TA-55-63 5.66 4.64E-03 1.50E-01 1.30E-03 1.92E-03 1.50E-01 1.30E-03 1.92E-01 1.30E-03 1.92E-01 1.30E-03 1.92E-01 1.30E-03 1.92E-03 1.50E-03 1.92E-03 1.50E-03 |           |             |         |          |          |          |          |          |          |          |          |
| LA LA-TA-55-30   |           |             |         |          |          |          |          | 2.51E-06 |          | 8.72E+00 |          |
| LA LA-TA-55-32   |           |             | 2713.31 | 3.36E+01 | 7.52E-04 | 1.77E-05 |          |          |          | 1.17E+02 | 2.84E+01 |
| LA         LA-TA-55-33         6.66         4.64E-01         2.85E-06         8.93E-02         1.49E+00         4.78           LA         LA-TA-55-34         205.67         3.43E+01         1.82E-04         6.34E+00         1.77E+02         4.52E           LA         LA-TA-55-38         744.30         1.26E+02         2.91E-03         9.39E-04         2.39E+00         4.48E+01         1.21E           LA         LA-TA-55-38         2.91 9.97E+00         2.77E-05         2.01E+00         7.61E+01         1.72E           LA         LA-TA-55-41         35.38         2.92E+02         1.23E-03         3.37E+00         7.64E+01         1.84E           LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.63E+00         7.34           LA         LA-TA-55-48         23.34         3.02E-01         1.160E-06         2.97E-02         2.06E-01         1.03           LA         LA-TA-55-69         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73           LA         LA-TA-55-60         685.19   |           |             | 4.78    | 3.05E+00 |          |          |          |          |          | 1.13E+01 | 3.51E+00 |
| LA         LA-TA-55-34         205.67         3.43E+01         1.82E-04         6.34E+00         1.77E+02         4.52E           LA         LA-TA-55-38         744.30         1.26E+02         2.91E-03         9.39E-04         2.39E+00         4.88E+01         1.21E           LA         LA-TA-55-39         2.91         9.97E+00         2.77C-05         2.01E+00         7.61E+01         1.72E           LA         LA-TA-55-41         35.38         2.92E+02         1.23E-03         3.37E+00         7.64E+01         1.84E           LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.03E-00         7.34E-04         3.34E+03         3.09E+01         7.34E-04           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         7.34E-04         1.46E-02         2.77E+02         6.98E-02         2.77E+02         6.98E-02         7.77E+02         6.98E-02         7.77E+02         6.98E-02         7.77E+02         6.98E-02         7.77E+02         6.98E-02         7.77E+02         6.98E-02         7.77E+02  | LA        |             |         |          |          |          |          |          |          | 1.49E+00 | 4.78E-01 |
| LA         LA-TA-55-38         744.30         1.26E+02         2.91E-03         9.39E-04         2.39E+00         4.48E+01         1.21E           LA         LA-TA-55-39         2.91         9.97E+00         2.77E-05         2.01E+00         7.61E+01         1.72E           LA         LA-TA-55-41         35.38         2.92E+02         1.23E-03         3.37E+00         7.64E+01         1.84E           LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-43         64.90         7.76E-02         1.86E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.06E-01         1.03           LA         LA-TA-55-48         23.34         3.02E-01         1.14E-04         3.34E+03         3.09E+01         8.73           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73           LA         LA-TA-55-60         685.19         5.12E+01         5.74E-04         1.86E+02         7.77E-02         9.88           LA         LA-TA-55-61   | LA        |             |         |          |          |          |          |          |          |          |          |
| LA         LA-TA-55-39         2.91         9.97E+00         2.77E-05         2.01E+00         7.61E+01         1.72E           LA         LA-TA-55-41         35.38         2.92E+02         1.23E-03         3.37E+00         7.64E+01         1.84E           LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.63E+00         7.34E           LA         LA-TA-55-48         23.34         3.02E-01         1.60E-06         2.97E+02         2.06E-01         1.03           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73E           LA         LA-TA-55-63         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-66         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57E+02         1.31E-07         2.99E-01         1.39E-01 <t< td=""><td></td><td></td><td></td><td></td><td>2.91E-03</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>   |           |             |         |          | 2.91E-03 |          |          |          |          |          |          |
| LA         LA-TA-55-41         35.38         2.92E+02         1.23E-03         3.37E+00         7.64E+01         1.84E           LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.63E+00         7.34E           LA         LA-TA-55-48         23.34         3.02E-01         1.14E-04         3.34E+03         3.09E+01         8.73E           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73E           LA         LA-TA-55-63         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-66         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57E           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74E           LA         LA-TA-55-63         5.66 <td></td> <td></td> <td>2.91</td> <td>9.97E+00</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>   |           |             | 2.91    | 9.97E+00 |          |          |          |          |          |          |          |
| LA         LA-TA-55-43         64.90         7.76E-02         1.85E-07         2.73E+02         1.42E-01         5.00           LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.63E+00         7.34           LA         LA-TA-55-48         23.34         3.02E-01         1.60E-06         2.97E+02         2.06E-01         1.03           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         1.03           LA         LA-TA-55-53         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-65         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57E           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74E           LA         LA-TA-55-63         5.66         4.64E-03         1.36E-08         1.92E-03         3.38E+03         2.33E-02         1.12E           LL         LL-M001   |           |             |         |          |          |          |          |          |          |          |          |
| LA         LA-TA-55-44         230.66         1.02E+00         6.90E-06         6.43E+02         2.63E+00         7.34           LA         LA-TA-55-48         23.34         3.02E-01         1.60E-06         2.97E+02         2.06E-01         1.03           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73           LA         LA-TA-55-53         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-66         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57T-LA           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74           LA         LA-TA-55-62         73.58         7.64E-03         1.36E-08         1.92E-03         7.47E-02         1.74           LL         LL-M001         31.11         8.06E+01         9.43E+01         7.65E+01         6.41E+01         2.88E           LL         LL-T002         1507.73   |           |             |         |          |          |          |          |          |          |          |          |
| LA         LA-TA-55-48         23.34         3.02E-01         1.60E-06         2.97E+02         2.06E-01         1.03           LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73E           LA         LA-TA-55-63         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-66         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57E-04         1.31E-07         2.99E-01         1.39E-01         4.74           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74           LA         LA-TA-55-62         73.58         7.64E-03         3.22E-08         2.84E-03         2.34E-05         4.82E-03         7.47E-02         1.74           LL         LL-M001         31.11         8.06E+01         9.43E+01         7.65E+01         6.41E+01         2.88E           LL         LL-T001         276.82         2.52E+02         3.5E+02         3.5E+02   |           |             |         |          |          |          |          |          |          |          |          |
| LA         LA-TA-55-49         18.30         1.67E+01         1.14E-04         3.34E+03         3.09E+01         8.73E           LA         LA-TA-55-53         174.68         6.22E+01         3.84E-04         5.57E+00         2.14E+02         5.01E           LA         LA-TA-55-56         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74           LA         LA-TA-55-62         73.58         7.64E-03         3.22E-08         2.84E-03         2.33E-02         1.74           LA         LA-TA-55-63         5.66         4.64E-03         1.36E-08         1.92E-03         7.47E-02         1.74           LL         LL-M001         31.11         8.06E+01         9.43E+01         7.65E+01         6.41E+01         2.88E           LL         LL-T002         1507.73         2.70E+03         4.83E+02         3.75E+03         1.55E           LL         LL-T003         761.83         1.03E+02 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.03E-01</td></td<>   |           |             |         |          |          |          |          |          |          |          | 1.03E-01 |
| LA       LA-TA-55-56       685.19       5.12E+01       5.74E-04       1.86E+02       2.77E+02       6.98E         LA       LA-TA-55-60       211.31       3.71E-02       2.34E-05       6.49E-02       7.20E-02       2.57I         LA       LA-TA-55-61       226.49       3.01E-02       1.31E-07       2.99E-01       1.39E-01       4.74I         LA       LA-TA-55-62       73.58       7.64E-03       3.22E-08       2.84E-03       2.33E-02       1.12I         LA       LA-TA-55-63       5.66       4.64E-03       1.36E-08       1.92E-03       7.47E-02       1.74I         LL       LL-M001       31.11       8.06E+01       9.43E+01       7.65E+01       6.41E+01       2.88E         LL       LL-T001       276.82       2.52E+02       3.86E+02       3.86E+02       1.55E         LL       LL-T002       1507.73       2.70E+03       4.83E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T003       761.83       1.03E+02       5.35E+01       1.11E+01       4.83E+02       3.75E+03       1.56E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL  | LA        | LA-TA-55-49 | 18.30   | 1.67E+01 |          |          |          |          |          |          | 8.73E+00 |
| LA         LA-TA-55-56         685.19         5.12E+01         5.74E-04         1.86E+02         2.77E+02         6.98E           LA         LA-TA-55-60         211.31         3.71E-02         2.34E-05         6.49E-02         7.20E-02         2.57I           LA         LA-TA-55-61         226.49         3.01E-02         1.31E-07         2.99E-01         1.39E-01         4.74I           LA         LA-TA-55-62         73.58         7.64E-03         3.22E-08         2.84E-03         2.33E-02         1.12I           LA         LA-TA-55-63         5.66         4.64E-03         1.36E-08         1.92E-03         7.47E-02         1.74I           LL         LL-M001         31.11         8.06E+01         9.43E+01         7.65E+01         6.41E+01         2.88E           LL         LL-T001         276.82         2.52E+02         3.86E+02         3.75E+03         1.56E           LL         LL-T002         1507.73         2.70E+03         4.83E+02         3.75E+03         1.56E           LL         LL-T003         761.83         1.03E+02         5.35E+01         7.56E+01         6.11E           LL         LL-T004         23.43         6.58E+01         1.11E+01         4.83E+02         1.3  | LA        | LA-TA-55-53 | 174.68  | 6.22E+01 |          |          |          | 3.84E-04 | 5.57E+00 | 2.14E+02 | 5.01E+01 |
| LA       LA-TA-55-61       226.49       3.01E-02       1.31E-07       2.99E-01       1.39E-01       4.74         LA       LA-TA-55-62       73.58       7.64E-03       3.22E-08       2.84E-03       2.33E-02       1.12         LA       LA-TA-55-63       5.66       4.64E-03       1.36E-08       1.92E-03       7.47E-02       1.74         LL       LL-M001       31.11       8.06E+01       9.43E+01       7.65E+01       6.41E+01       2.88E         LL       LL-T001       276.82       2.52E+02       3.86E+02       3.86E+02       1.75E         LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55E         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+02       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.21E+01       1.01E       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00 <td>LA</td> <td>LA-TA-55-56</td> <td>685.19</td> <td>5.12E+01</td> <td></td> <td></td> <td></td> <td>5.74E-04</td> <td>1.86E+02</td> <td>2.77E+02</td> <td>6.98E+01</td>   | LA        | LA-TA-55-56 | 685.19  | 5.12E+01 |          |          |          | 5.74E-04 | 1.86E+02 | 2.77E+02 | 6.98E+01 |
| LA       LA-TA-55-61       226.49       3.01E-02       1.31E-07       2.99E-01       1.39E-01       4.74         LA       LA-TA-55-62       73.58       7.64E-03       3.22E-08       2.84E-03       2.33E-02       1.12         LA       LA-TA-55-63       5.66       4.64E-03       1.36E-08       1.92E-03       7.47E-02       1.74         LL       LL-M001       31.11       8.06E+01       9.43E+01       7.65E+01       6.41E+01       2.88E         LL       LL-T001       276.82       2.52E+02       3.86E+02       3.86E+02       1.75E         LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55E         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+02       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.21E+01       1.01E       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00 <td>LA</td> <td>LA-TA-55-60</td> <td>211.31</td> <td>3.71E-02</td> <td></td> <td></td> <td></td> <td>2.34E-05</td> <td></td> <td>7.20E-02</td> <td>2.57E-02</td>   | LA        | LA-TA-55-60 | 211.31  | 3.71E-02 |          |          |          | 2.34E-05 |          | 7.20E-02 | 2.57E-02 |
| LA       LA-TA-55-63       5.66       4.64E-03       1.36E-08       1.92E-03       7.47E-02       1.74         LL       LL-M001       31.11       8.06E+01       9.43E+01       7.65E+01       6.41E+01       2.88         LL       LL-T001       276.82       2.52E+02       3.86E+02       1.75         LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.87E+02       1.85E-02       4.28I         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02       1.74E       5.26E-02       1.74E       1.74E       1.73  | LA        | LA-TA-55-61 | 226.49  | 3.01E-02 |          |          |          | 1.31E-07 | 2.99E-01 | 1.39E-01 | 4.74E-02 |
| LL       LL-M001       31.11       8.06E+01       9.43E+01       7.65E+01       6.41E+01       2.88E         LL       LL-T001       276.82       2.52E+02       3.86E+02       1.75E         LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55E         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.87E+02       1.85E-02       4.28I         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02       6.06E-02         NT       NT-JAS-01       681.40       9.20E+01       4.73E-04       5.26E-02       7.59E         NT       NT-W001       626.75       3.06E  | LA        | LA-TA-55-62 | 73.58   | 7.64E-03 |          |          |          | 3.22E-08 | 2.84E-03 | 2.33E-02 | 1.12E-02 |
| LL       LL-T001       276.82       2.52E+02       3.86E+02       1.75E         LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55E         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28E         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.5  | LA        | LA-TA-55-63 | 5.66    | 4.64E-03 |          |          |          | 1.36E-08 | 1.92E-03 | 7.47E-02 | 1.74E-02 |
| LL       LL-T002       1507.73       2.70E+03       4.83E+02       3.75E+03       1.55E         LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28E         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02       7.54E         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03  | LL        | LL-M001     | 31.11   | 8.06E+01 |          | 9.43E+01 |          |          | 7.65E+01 | 6.41E+01 | 2.88E+01 |
| LL       LL-T003       761.83       1.03E+02       5.35E+01       7.56E+01       6.11E         LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28E         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E   | LL        | LL-T001     | 276.82  | 2.52E+02 |          |          |          |          |          | 3.86E+02 | 1.75E+02 |
| LL       LL-T004       23.43       6.58E+01       1.11E+01       4.83E+01       3.89E         LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28E         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E         OR       OR-W201       86.24       3.04E+03       1.23E-02       1.14E+02       1.20E-02       6.76E-02       2.05E+03   | LL        | LL-T002     | 1507.73 | 2.70E+03 |          |          |          |          | 4.83E+02 | 3.75E+03 | 1.55E+03 |
| LL       LL-T005       852.06       4.18E+02       3.39E+03       1.36E+02       1.87E+02       1.53E         LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28E         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E         OR       OR-W201       86.24       3.04E+03       1.23E-02       1.14E+02       1.20E-02       6.76E-02       2.05E+03       1.54E+03       1.52E   | LL        | LL-T003     | 761.83  | 1.03E+02 |          |          |          |          | 5.35E+01 | 7.56E+01 | 6.11E+01 |
| LL       LL-W018       2.11       2.19E-02       1.85E-02       4.28         LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E         OR       OR-W201       86.24       3.04E+03       1.23E-02       1.14E+02       1.20E-02       6.76E-02       2.05E+03       1.54E+03       1.52E   | LL        | LL-T004     | 23.43   | 6.58E+01 |          |          |          |          | 1.11E+01 | 4.83E+01 | 3.89E+01 |
| LL       LL-W019       15.30       1.90E+01       1.21E+01       1.01E         LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E         OR       OR-W201       86.24       3.04E+03       1.23E-02       1.14E+02       1.20E-02       6.76E-02       2.05E+03       1.54E+03       1.52E  | LL        | LL-T005     | 852.06  | 4.18E+02 |          | 3.39E+03 |          |          | 1.36E+02 | 1.87E+02 | 1.53E+02 |
| LL       LL-W034       20.98       9.44E+00       7.59E+01       3.15E+00       4.20E+00       3.36E         MC       MC-W001       2.50       1.56E-01       4.03E-07       6.06E-02         MU       MU-W002       1.46       2.17E+00       4.73E-04       5.26E-02         NT       NT-JAS-01       681.40       9.20E+01       4.78E+01       6.76E+01       5.46E         NT       NT-W001       626.75       3.06E+02       1.25E+00       2.30E+00       2.83E-02       6.50E-03       1.33E+02       2.84E+03       1.90E         NT       NT-W021       5.67       3.20E+00       9.41E-06       9.60E-01       3.22E+01       7.38E         OR       OR-W201       86.24       3.04E+03       1.23E-02       1.14E+02       1.20E-02       6.76E-02       2.05E+03       1.54E+03       1.52E   | LL        | LL-W018     | 2.11    | 2.19E-02 |          |          |          |          |          | 1.85E-02 | 4.28E-02 |
| MC         MC-W001         2.50         1.56E-01         4.03E-07         6.06E-02           MU         MU-W002         1.46         2.17E+00         4.73E-04         5.26E-02           NT         NT-JAS-01         681.40         9.20E+01         4.78E+01         6.76E+01         5.46E           NT         NT-W001         626.75         3.06E+02         1.25E+00         2.30E+00         2.83E-02         6.50E-03         1.33E+02         2.84E+03         1.90E           NT         NT-W021         5.67         3.20E+00         9.41E-06         9.60E-01         3.22E+01         7.38E           OR         OR-W201         86.24         3.04E+03         1.23E-02         1.14E+02         1.20E-02         6.76E-02         2.05E+03         1.54E+03         1.52E  | LL        | LL-W019     | 15.30   | 1.90E+01 |          |          |          |          |          | 1.21E+01 | 1.01E+01 |
| MU     MU-W002     1.46     2.17E+00     4.73E-04     5.26E-02       NT     NT-JAS-01     681.40     9.20E+01     4.78E+01     6.76E+01     5.46E       NT     NT-W001     626.75     3.06E+02     1.25E+00     2.30E+00     2.83E-02     6.50E-03     1.33E+02     2.84E+03     1.90E       NT     NT-W021     5.67     3.20E+00     9.41E-06     9.60E-01     3.22E+01     7.38E       OR     OR-W201     86.24     3.04E+03     1.23E-02     1.14E+02     1.20E-02     6.76E-02     2.05E+03     1.54E+03     1.52E   | LL        | LL-W034     | 20.98   | 9.44E+00 |          | 7.59E+01 |          |          | 3.15E+00 | 4.20E+00 | 3.36E+00 |
| NT         NT-JAS-01         681.40         9.20E+01         4.78E+01         6.76E+01         5.46E           NT         NT-W001         626.75         3.06E+02         1.25E+00         2.30E+00         2.83E-02         6.50E-03         1.33E+02         2.84E+03         1.90E           NT         NT-W021         5.67         3.20E+00         9.41E-06         9.60E-01         3.22E+01         7.38E           OR         OR-W201         86.24         3.04E+03         1.23E-02         1.14E+02         1.20E-02         6.76E-02         2.05E+03         1.54E+03         1.52E  | MC        | MC-W001     | 2.50    | 1.56E-01 |          |          |          | 4.03E-07 |          | 6.06E-02 |          |
| NT         NT-W001         626.75         3.06E+02         1.25E+00         2.30E+00         2.83E-02         6.50E-03         1.33E+02         2.84E+03         1.90E           NT         NT-W021         5.67         3.20E+00         9.41E-06         9.60E-01         3.22E+01         7.38E           OR         OR-W201         86.24         3.04E+03         1.23E-02         1.14E+02         1.20E-02         6.76E-02         2.05E+03         1.54E+03         1.52E   | MU        | MU-W002     | 1.46    | 2.17E+00 |          |          |          | 4.73E-04 |          | 5.26E-02 |          |
| NT         NT-W021         5.67         3.20E+00         9.41E-06         9.60E-01         3.22E+01         7.38E           OR         OR-W201         86.24         3.04E+03         1.23E-02         1.14E+02         1.20E-02         6.76E-02         2.05E+03         1.54E+03         1.52E  | NT        | NT-JAS-01   | 681.40  | 9.20E+01 |          |          |          |          | 4.78E+01 | 6.76E+01 | 5.46E+01 |
| OR OR-W201 86.24 3.04E+03 1.23E-02 1.14E+02 1.20E-02 6.76E-02 2.05E+03 1.54E+03 1.52E  | NT        | NT-W001     | 626.75  | 3.06E+02 | 1.25E+00 | 2.30E+00 | 2.83E-02 | 6.50E-03 | 1.33E+02 | 2.84E+03 | 1.90E+01 |
|  | NT        | NT-W021     | 5.67    | 3.20E+00 |          |          |          | 9.41E-06 | 9.60E-01 | 3.22E+01 | 7.38E+00 |
| OD W000 447 70 0 775,00 4 405,04 0 005,00 5 505,00 4 445,00 5 005,00 0 0 0 0 0 0   | OR        | OR-W201     | 86.24   | 3.04E+03 | 1.23E-02 | 1.14E+02 | 1.20E-02 | 6.76E-02 | 2.05E+03 | 1.54E+03 | 1.52E+03 |
| OR OR-W202 417.76 6.77E+02 1.40E+01 2.38E+03 5.53E+03 1.14E+00 5.92E+03 3.95E+02 3.83E   | OR        | OR-W202     | 417.76  | 6.77E+02 | 1.40E+01 | 2.38E+03 | 5.53E+03 | 1.14E+00 | 5.92E+03 | 3.95E+02 | 3.83E+02 |
| OR OR-W203 142.79 1.47E+00 9.18E-02 8.27E+01 3.24E+00 7.68E-06 8.51E-01 1.77E-02 1.04E   | OR        | OR-W203     | 142.79  | 1.47E+00 | 9.18E-02 | 8.27E+01 | 3.24E+00 | 7.68E-06 | 8.51E-01 | 1.77E-02 | 1.04E+00 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID    | Volume | Am-241               | Am-243 | Cm-244   | Cs-137   | Np-237               | Pu-238   | Pu-239   | Pu-240   |
|-----------|------------|--------|----------------------|--------|----------|----------|----------------------|----------|----------|----------|
| OR        | OR-W204    | 27.50  |                      |        | 3.43E-04 | 1.07E+00 | 2.05E-06             | 9.59E-01 | 3.02E-01 | 2.05E-01 |
| PA        | PA-A015    | 14.19  |                      |        |          |          | 5.18E-02             |          | 3.43E-01 |          |
| RF        | RF-MT0001  |        | 1.95E+03             |        |          |          |                      | 8.38E+00 |          | 4.49E+01 |
| RF        | RF-MT0002  |        | 1.50E+02             |        |          |          | 5.86E-04             | 6.43E-01 | 1.51E+01 | 3.45E+00 |
| RF        | RF-MT0003  | 1.67   |                      |        |          |          | 6.60E-07             | 1.47E-01 | 3.45E+00 | 7.90E-01 |
| RF        | RF-MT0007  |        | 1.69E+00             |        |          |          | 6.59E-06             |          | 4.30E-01 | 9.83E-02 |
| RF        | RF-MT0089  |        | 2.92E-03             |        |          |          |                      | 1.47E-03 | 3.45E-02 | 7.89E-03 |
| RF        | RF-MT0090  |        | 1.34E+01             |        |          |          |                      | 2.08E+00 |          | 2.01E+01 |
| RF        | RF-MT0091  |        | 7.50E+02             |        |          |          |                      | 2.11E+02 |          |          |
| RF        | RF-MT0092  |        | 1.09E+02             |        |          |          | 3.67E-04             | 2.66E+01 |          |          |
| RF        | RF-MT0093  |        | 1.49E+02             |        |          |          | 1.26E-03             | 2.74E+01 | 9.15E+02 |          |
| RF        | RF-MT0097  |        | 7.28E+00             |        |          |          |                      | 1.21E+00 | 4.78E+01 | 9.82E+00 |
| RF        | RF-MT0099  |        | 4.39E-03             |        |          |          | 9.41E-09             | 2.21E-03 | 5.17E-02 | 1.18E-02 |
| RF        | RF-MT0290  |        | 1.09E+01             |        |          |          |                      | 5.47E+00 |          |          |
| RF        | RF-MT-0292 |        | 1.37E+01             |        |          |          | 2.94E-05             | 6.91E+00 |          |          |
| RF        | RF-MT-0299 |        | 3.30E+03             |        |          |          | 1.23E-02             | 1.77E+02 | 4.15E+03 |          |
| RF        | RF-MT0302  |        | 3.94E-02             |        |          |          | 2.64E-07             | 7.02E-03 | 1.79E-01 | 4.11E-02 |
| RF        | RF-MT0320  |        | 5.06E+01             |        |          |          | 2.56E-04             |          | 1.74E+02 |          |
| RF        | RF-MT0321  |        | 2.96E+01             |        |          |          |                      | 1.92E+00 |          | 1.13E+01 |
| RF        | RF-MT-0328 |        | 1.59E+00             |        |          |          | 1.59E-05             | 2.09E-01 | 4.90E+00 | 1.12E+00 |
| RF        | RF-MT0330  |        | 1.91E+01             |        |          |          | 1.04E-04             |          |          |          |
| RF        | RF-MT-0331 |        | 1.29E+02             |        |          |          |                      | 1.77E+01 |          |          |
| RF        | RF-MT0332  |        | 1.02E-02             |        |          |          | 2.19E-08             | 5.16E-03 | 1.21E-01 | 2.76E-02 |
| RF        | RF-MT-0335 |        | 1.36E+00             |        |          |          | 1.56E-05             | 2.37E-01 |          | 1.43E+00 |
| RF        | RF-MT0336  |        | 1.03E+02             |        |          |          | 3.75E-04             | 1.57E+01 | 4.42E+02 |          |
| RF        | RF-MT0337  | 13.97  |                      |        |          |          | 2.25E-04             | 8.63E+00 |          |          |
| RF        | RF-MT0339  | 215.30 |                      |        |          |          |                      | 1.95E+01 |          | 1.11E+02 |
| RF        | RF-MT-0342 | 0.42   |                      |        |          |          | 1.12E-05             | 1.97E-01 | 5.47E+00 |          |
| RF        | RF-MT0371  | 20.43  |                      |        |          |          | 3.18E-03             | 4.56E+01 |          | 2.44E+02 |
| RF        | RF-MT-0372 |        | 1.07E+00             |        |          |          | 5.33E-06             | 3.21E-01 |          | 1.71E+00 |
| RF        | RF-MT0373  |        | 2.12E+01             |        |          |          |                      | 3.30E+00 |          |          |
| RF        | RF-MT0374  |        | 5.76E-01             |        |          |          | 6.78E-06             | 1.18E-01 | 2.77E+00 |          |
| RF        | RF-MT0376  | 0.21   |                      |        |          |          | 3.31E-06             | 9.53E-02 | 2.76E+00 |          |
| RF        | RF-MT0377  | -      | 2.73E+02             |        |          |          |                      | 5.49E+01 |          |          |
| RF        | RF-MT0378  |        | 2.69E+00             |        |          |          |                      |          |          | 4.07E+00 |
| RF        | RF-MT0419  |        | 5.67E+00             |        |          |          |                      | 7.09E-01 |          | 3.80E+00 |
| RF        | RF-MT0420  |        | 9.86E-01             |        |          |          |                      | 1.23E-01 | 2.88E+00 | 6.60E-01 |
| RF        | RF-MT0423  |        | 9.86E+00             |        |          |          |                      | 1.00E+00 |          |          |
| RF        | RF-MT0425  |        | 2.47E-01             |        |          |          |                      | 3.08E-02 | 7.21E-01 | 1.65E-01 |
| RF        | RF-MT-0438 |        | 2.47E+00             |        |          |          |                      |          |          | 2.90E+00 |
| RF        | RF-MT0440  |        | 7.49E-01             |        |          |          |                      |          |          |          |
| RF        | RF-MT0442  |        | 2.88E-01             |        |          |          |                      | 6.27E-02 | 1.59E+00 |          |
| RF        | RF-MT0443  |        | 2.49E+00             |        |          |          |                      | 1.03E+00 |          | 5.65E+00 |
| RF        | RF-MT0444  |        | 2.49L+00<br>2.58E+01 |        |          |          |                      | 4.98E+00 |          |          |
| RF        | RF-MT0480  |        | 7.22E+01             |        |          | 5.32E-03 |                      | 1.34E+01 | 3.17E+02 |          |
| RF        | RF-MT0488  |        | 9.39E+01             |        |          | J.JZL-UJ |                      | 1.64E+01 |          |          |
| RF        | RF-MT0490  |        | 4.93E-01             |        |          |          |                      | 1.04E+01 | 2.93E+00 |          |
| RF        |            |        | 4.93E-01<br>4.85E-02 |        |          |          |                      |          |          |          |
| RF        | RF-MT-0491 |        | 3.81E+01             |        |          |          | 4.86E-07             | 5.62E-03 | 1.33E-01 | 3.03E-02 |
| RF        | RF-MT0523A |        |                      |        |          |          | 3.31E-04<br>3.31E-04 | 4.47E+00 | 1.05E+02 |          |
| KF        | RF-MT0523B | 10.84  | 3.81E+01             |        |          |          | ა.ა1E-04             | 4.47E+00 | 1.05E+02 | ∠.40E+01 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| RF RF-MT0S23C  | Site_Code | WIPP ID    | Volume | Am-241   | Am-243 | Cm-244 | Cs-137 | Np-237   | Pu-238   | Pu-239   | Pu-240   |
|--|-----------|------------|--------|----------|--------|--------|--------|----------|----------|----------|----------|
| RF RF-MT0523D  |           |            |        |          | 7 2 10 | 0 2    | 00 101 |          |          |          |          |
| RF NR-MT0632E 10.84 3.81£-01 3.31£-04 4.77£-00 10.05£-02 2.40£-01 RF RF-MT0631 0.21 1.46E-03 3.14E-09 3.57£-00 2.20£-02 5.22£-01 RR RR-MT0632E 15.63 1.34E+02 3.41£-03 9.57£-00 2.20£-02 5.22£-01 RR RR-MT0632F 15.63 1.34E+02 3.41£-03 9.57£-00 2.20£-02 5.22£-01 RR RR-MT0632F 15.63 1.34E+02 3.41£-03 9.57£-00 2.20£-02 5.22£-01 RR RR-MT0641 4.38 5.43£+00 2.20£-05 1.38£-02 2.20£-07 7.42£-01 RR RR-MT0641 4.38 5.43£+00 2.20£-05 1.38£-03 1.57£-01 3.58£-02 RR RR-MT0840 6.248 1.72£-03 4.59£-03 3.81£-00 7.56£-01 1.72£-01 7.72£-01 1. | RF        |            |        |          |        |        |        |          |          |          |          |
| RF RF-MT0631   | RF        | RF-MT0523E | 10.84  | 3.81E+01 |        |        |        | 3.31E-04 | 4.47E+00 | 1.05E+02 | 2.40E+01 |
| RF RF-MT0S2F   | RF        | RF-MT0531  | 0.21   | 1.46E-03 |        |        |        | 3.14E-09 | 7.36E-04 | 1.72E-02 | 3.94E-03 |
| RF RF-MT0641   | RF        | RF-MT0532E | 15.63  | 1.34E+02 |        |        |        | 3.41E-03 | 9.57E+00 | 2.29E+02 | 5.23E+01 |
| RF RF-MT0641   | RF        | RF-MT0532F | 15.63  | 1.34E+02 |        |        |        |          |          |          |          |
| RF         RF-MT0800         62.48         1.17E-03         4.89E-03         3.31E-00         7.75E-01         1.778E-01           RF         RF-MT0801         101.83         1.26E-02         4.86E-04         3.22E-00         1.09E-05         7.76E-02         1.70E-00         3.88E-01           RF         RF-MT0806         0.21         1.11E-00         3.94E-06         1.74E-01         7.39E-00         1.67E-00         3.94E-06         1.74E-01         7.39E-00         1.67E-00           RF         RF-MT0807         84.18         1.46E-01         5.26E-06         1.34E-01         1.43E-00         1.44E-00         4.97E-06         1.89E-01         1.43E-00         1.07E-00           RF         RF-MT0827         8.41         4.46E-01         6.36E-06         1.89E-01         1.43E-00         1.07E-00         1.06E-06         3.89E-01         1.43E-00         1.07E-00         2.08E-00         1.07E-01         1.07E-00         2.08E-00         1.07E-01         2.08E-00         1.07E-01         2.08E-00         1.07E-01         2.08E-00         1.07E-01         2.08E-00 <td>RF</td> <td>RF-MT0541</td> <td>4.38</td> <td>5.43E+00</td> <td></td> <td></td> <td></td> <td>2.08E-05</td> <td>1.38E-01</td> <td>3.25E+00</td> <td>7.42E-01</td>  | RF        | RF-MT0541  | 4.38   | 5.43E+00 |        |        |        | 2.08E-05 | 1.38E-01 | 3.25E+00 | 7.42E-01 |
| RF         RF-MT0801         101.83         1.26E+02         4.88E-04         3.22E+00         7.58E+01         1.73E+01           RF         RF-MT0803         2.29         2.86E+00         1.00E-05         7.26E-02         1.70E+00         3.88E-01         1.00E-05         7.26E-02         1.70E+00         3.88E-01         1.70E+00         3.80E-06         1.70E+00         3.80E-06         1.70E+00         3.80E-06         1.70E+00         3.80E-06         1.70E+00         3.80E-06         1.70E+00         3.80E-06         1.70E+00         4.97E-06         1.80E-00         4.47E-00         4.97E-06         1.80E-00         4.46E-00         1.00E-00         4.97E-06         1.80E-00         4.40E-00         1.00E-00         4.97E-06         1.80E-00         4.40E-00         1.00E-00         4.80E-00         1.00E-00         4.80E-00         1.00E-00         4.80E-00         1.00E-00         4.80E-00         1.00E-00         4.80E-00         1.00E-00         4.80E-00         4.00E-00  | RF        | RF-MT0545  | 0.21   | 1.33E-02 |        |        |        | 2.85E-08 | 6.68E-03 | 1.57E-01 | 3.58E-02 |
| RF RF-MT0803   | RF        | RF-MT0800  | 62.48  | 1.17E+03 |        |        |        | 4.59E-03 | 3.31E+00 | 7.75E+01 | 1.77E+01 |
| RF         RF-MT0806         0.21         1.11E+00         3.94E-06         1.74E-01         7.39E+00         1.67E+00           RF         RF-MT0807         84.18         1.46E+01         5.26E-05         1.34E+00         3.14E+01         7.19E+00         3.14E+01         7.19E+00         3.4E+001         1.17E+00         3.4E+01         1.18E-04         4.97E-06         8.89E-01         4.58E-00         1.0EE-02         2.02E+00         4.62E-01           RF         RF-MT0827         9.90         3.41E+01         1.18E-04         4.49E-00         1.0EE-02         2.0EE-02         4.62E-01           RF         RF-MT0827         9.90         3.41E+01         1.11E-04         4.49E-00         1.0EE-02         2.0E-02         4.62E-01           RF         RF-MT0831         1.02.0E         1.0EE-02         3.30E-03         3.0TE-03         1.0EE-02         2.96E-08         6.31E-03         1.46E-01         3.30E-03         2.0TE-03         6.48E+01         7.0EE-02         2.0E-06-08         6.31E-03         1.46E-01         3.30E-03         4.0TE-01         1.46E-04         4.46E-04         4.46E-04         4.46E-04         4.46E-05         4.2EE-01         3.30E-03         4.2EE-01         3.30E-03         4.2EE-01         3.30E-03         4.2EE-01 <td>RF</td> <td>RF-MT0801</td> <td>101.83</td> <td>1.26E+02</td> <td></td> <td></td> <td></td> <td>4.85E-04</td> <td>3.22E+00</td> <td>7.56E+01</td> <td>1.73E+01</td>   | RF        | RF-MT0801  | 101.83 | 1.26E+02 |        |        |        | 4.85E-04 | 3.22E+00 | 7.56E+01 | 1.73E+01 |
| RF         RF-MT0807         84.18         1.46E+01         5.26E-05         1.34E+00         3.14E+01         7.19E+00           RF         RF-MT0816         0.42         1.44E+00         4.97E-06         1.89E-01         4.43E+00         1.01E+00           RF         RF-MT0823         0.21         7.34E-01         6.36E-06         1.69E-00         4.26E+00         4.36E+00         3.36E-00         4.36E+00         3.36E-00         4.36E+00         3.36E-00         4.26E+00         4.36E+00         4.36E+00         4.26E+00         4.26E+00<   | RF        | RF-MT0803  | 2.29   | 2.85E+00 |        |        |        | 1.09E-05 | 7.25E-02 | 1.70E+00 | 3.88E-01 |
| RF         RF-MT0816         0.42         1.44E+00         4.97E-06         1.89E-01         4.43E+00         1.01E+00           RF         RF-MT0823         0.21         7.34E-01         6.36E-06         8.60E-02         2.02E+00         4.62E-01           RF         RF-MT0827         9.90         3.41E-01         1.18E-01         1.18E-01         4.43E-01         1.05E-02         2.02E-02         2.02E-02         6.94E-01         1.18E-01         3.05E-03         4.07E-01         1.01E-02         3.30E-03         4.07E-01         1.01E-03         2.03E-02         6.94E-01         1.71E-01         2.03E-02         6.94E-01         7.07E-02         9.95E-04         1.71E-01         2.83E-02         6.48E-01         7.07E-03         6.48E-01         7.07E-03         6.48E-01         7.07E-03         6.48E-01         7.07E-03         6.07E-03         7.07E-03         7.07E-03         7.07E-03         7.07E-03         7.07E-03         7.07E-03         7.07E-03         7.07E-03 </td <td>RF</td> <td>RF-MT0806</td> <td>0.21</td> <td>1.11E+00</td> <td></td> <td></td> <td></td> <td>3.94E-06</td> <td>1.74E-01</td> <td>7.39E+00</td> <td>1.67E+00</td>   | RF        | RF-MT0806  | 0.21   | 1.11E+00 |        |        |        | 3.94E-06 | 1.74E-01 | 7.39E+00 | 1.67E+00 |
| RF RF-MT0823 0.21 7.34E-01 6.36E-06 8.60E-02 2.02E+00 4.62E-01 RF RF-MT0827 9.90 3.41E+01 1.16E-04 4.49E+00 1.05E+02 2.41E+01 RF RF-MT0831 5.92 6.00E+01 5.36E-01 4.31E+01 3.03E+02 6.00E+01 RF RF-MT0832 166.26 3.76E+02 3.30E-03 4.07E+01 1.01E+03 2.30E+02 RF RF-MT0833 100.26 1.11E+02 9.95E-04 1.77E+01 2.89E+02 6.48E+01 RF-MT0855 11.67 1.25E-02 2.69E-06 6.31E-03 1.48E-01 3.30E-03 4.07E+01 1.01E+03 2.30E+02 RF RF-MT0855 11.67 1.25E-02 2.69E-06 6.31E-03 1.48E-01 3.30E-03 4.8E-01 1.73E+00 1.67E+00 3.93E-06 1.73E-01 7.37E+00 1.67E+00 3.93E-06 1.73E-01 7.37E+00 1.67E+00 3.93E-06 1.73E-01 7.37E+00 1.67E+00 3.93E-06 1.73E-01 7.37E+00 1.67E+00 1.40E-04 6.43E+00 2.73E+02 6.20E+01 1.40E-04 6.43E+00 2.73E+01 6.40E+00 3.61E-01 2.20E+01 3.03E-04 4.06E+00 3.61E-01 3.03E-04 4.06E+00 3.03E-04 3 | RF        | RF-MT0807  | 84.18  | 1.46E+01 |        |        |        | 5.26E-05 | 1.34E+00 | 3.14E+01 | 7.19E+00 |
| RF         RF-MT0827         9.90         3.41E+01         1.18E-04         4.49E+00         1.05E+02         2.41E+01           RF         RF-MT0831         59.92         6.00E+01         5.36E-04         1.31E+01         3.03E+02         6.94E+01           RF         RF-MT0833         100.26         1.11E+02         9.95E-04         1.17E+01         2.83E+02         6.48E+01           RF         RF-MT0855         1.67         1.25E-02         2.69E-08         6.31E-03         1.48E-01         3.38E-02         7.77E+00         1.38E-02           RF         RF-MT0865         1.67         1.25E-02         2.69E-08         6.31E-03         1.73E-01         7.37E+00         1.67E+00           RF         RF-MT0H61         7.71         4.12E+01         1.46E-04         6.43E+00         2.79E+02         6.20E+01           RF         RF-MT3016         2.08         4.71E+00         4.14E-06         5.10E-01         1.28E+01         2.08E+00           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         3.03E-04         4.06E+00         9.61E-01         1.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.5EE-02         6.00E-03   | RF        | RF-MT0816  | 0.42   | 1.44E+00 |        |        |        | 4.97E-06 | 1.89E-01 | 4.43E+00 | 1.01E+00 |
| RF         RF-MT0831         59.92         6.00E+01         5.36E-04         1.31E+01         3.03E+02         6.94E+01           RF         RF-MT0832         166.26         3.76E+02         3.30E-03         4.07E+01         1.01E+03         2.30E+02           RF         RF-MT0833         100.26         1.11E+02         9.95E-04         1.17E+01         2.88E+02         6.88E+01           RF         RF-MT0855         1.67         1.25E-02         2.69E-04         6.31E-03         1.48E-01         3.36E-02           RF         RF-MT0867         0.21         1.11E+00         3.93E-06         1.73E-01         1.67E-00           RF         RF-MT0816         7.71         4.12E+01         1.46E-06         6.43E-00         2.73E+02         6.00E-01           RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E+01         2.00E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.5EE-01         6.45E+02         1.65E+02         6.00E-03         1.6FE+02         6.00E-03         1.6FE+02         6.00E-03         1.6FE+02         6.00E-03         1.6FE+02         6.00E-03         1.6FE+02         6.00E-03         1.6FE+02         6.00  | RF        | RF-MT-0823 | 0.21   | 7.34E-01 |        |        |        | 6.36E-06 | 8.60E-02 | 2.02E+00 | 4.62E-01 |
| RF         RF-MT0832         166.26         3.76E+02         3.30E-03         4.07E+01         1.01E+02         2.30E+02           RF         RF-MT0833         100.26         1.11E+02         9.95E-04         1.17E+01         2.83E+02         6.48E+01           RF         RF-MT0855         1.67         1.25E-02         2.69E-08         6.31E-03         1.48E-01         3.38E-02           RF         RF-MT0857         0.21         1.11E+00         3.93E-06         6.37E-01         7.37E+00         1.67E+00           RF         RF-MT0611         7.71         4.12E+01         1.46E-04         6.43E+00         2.75E+02         6.20E+01         1.26E+01         2.88E+00           RF         RF-MT3010         4.28I 1.82E+01         3.33E-04         4.06E+00         9.61E-01         2.88E+00         8.75E+01         6.45E+02         1.48E+02         1.48E+02         1.48E+02         1.48E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02  | RF        | RF-MT0827  | 9.90   | 3.41E+01 |        |        |        | 1.18E-04 | 4.49E+00 | 1.05E+02 | 2.41E+01 |
| RF         RF-MT0833         100.26         1.11E+02         9.95E-04         1.17E+01         2.83E+02         6.48E+01           RF         RF-MT0855         1.67         1.25E-02         2.69E-08         6.31E-03         1.48E-01         3.38E-02           RF         RF-MT0857         0.21         1.11E+00         3.93E-06         6.43E-00         7.37E-00         1.67E+00           RF         RF-MT0H61         7.71         4.12E+01         1.46E-04         6.43E+00         2.73E+02         6.20E+01           RF         RF-MT2116         2.08         4.71E+00         4.14E-05         5.10E-01         1.26E+01         2.88E+00           RF         RF-MT3010         4.28.1         1.82E+01         3.03E-04         4.06E+00         9.61E-01         2.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E-02         1.66E-03         1.67E-02         6.35E-03         1.67E-02         6.35E-03         1.67E-02         6.35E-03         1.67E-02         6.35E-03         1.67E-02         6.35E-03         1.67E-02         6.35E-03         1.47E-02         6.35E-03         1.47E-02         6.35E-03         1.47E-02         6.35E-03         1.47E-02         6.25E-02   | RF        | RF-MT0831  | 59.92  | 6.00E+01 |        |        |        | 5.36E-04 | 1.31E+01 | 3.03E+02 | 6.94E+01 |
| RF         RF-MT0855         1.67         1.25E-02         2.69E-08         6.31E-03         1.48E-01         3.38E-02           RF         RF-MT0867         0.21         1.11E+00         3.93E-06         1.73E-01         7.37E+00         1.67E+00           RF         RF-MT0H61         7.71         4.12E+01         1.46E-04         6.43E+00         2.73E+02         6.20E+01           RF         RF-MT2116         2.08         4.71E+00         4.14E-05         5.10E-01         1.26E+01         2.88E+00           RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E+01         2.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02           RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         9.20E+01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532C         247.47   | RF        | RF-MT0832  | 166.26 | 3.76E+02 |        |        |        | 3.30E-03 | 4.07E+01 | 1.01E+03 | 2.30E+02 |
| RF         RF-MT0857         0.21         1.11E+00         3.93E-06         1.73E-01         7.37E+00         1.67E+00           RF         RF-MT0H61         7.71         4.12E+01         1.46E-04         6.43E+00         2.73E+02         6.20E+01           RF         RF-MT2116         2.08         4.71E+00         4.14E-05         5.10E-01         1.26E+01         2.88E+00           RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E-01         2.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02           RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.66E+01         4.03E+02         2.06E+03         1.5EE+02         6.60E-03         1.68E+01         4.03E+02         3.20E+01         1.8EE+02         1.48E+02         1   | RF        | RF-MT0833  | 100.26 | 1.11E+02 |        |        |        | 9.95E-04 | 1.17E+01 | 2.83E+02 | 6.48E+01 |
| RF         RF-MTOH61         7.71         4.12E+01         1.46E-04         6.43E+00         2.73E+02         6.20E+01           RF         RF-MT2116         2.08         4.71E+00         4.14E-05         5.10E-01         1.26E+01         2.88E+00           RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E+01         2.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02           RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.67E+02         6.35E+03         1.45E+03           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         224.74         2.12E+03         5.40E-02         1.56E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+00           RF         RF-MT520D         1.56         1.34E+01         3.41E-04         9.57E-01         2.92E+01         5.23E+00           RF         RF-MT532D         1.56<   | RF        | RF-MT0855  | 1.67   | 1.25E-02 |        |        |        | 2.69E-08 | 6.31E-03 | 1.48E-01 | 3.38E-02 |
| RF         RF-MT2116         2.08         4.71E+00         4.14E-05         5.10E-01         1.26E+01         2.88E+00           RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E+01         2.20E+01           RF         RF-MT3011         42.02         1.61E+02         3.41E-03         3.75E+01         6.45E+02         1.48E+02           RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.68E+01         4.05E+03         1.65E+01         4.03E+02         9.20E+01           RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         9.20E+01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+00           RF         RF-MT532D         1.56         1.34E+01         3.73E-06         1.59E-02         3.73E-06         1.59E-02         3.73E-06         1.59E-02         3.73E-06         1.59E-02         3.73E-01         8.53E-02         3.73E-06         1.59E-01         3.52E+00         6.78E  | RF        | RF-MT0857  | 0.21   | 1.11E+00 |        |        |        | 3.93E-06 | 1.73E-01 | 7.37E+00 | 1.67E+00 |
| RF         RF-MT3010         42.81         1.82E+01         3.03E-04         4.06E+00         9.61E+01         2.20E+01           RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02           RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.67E+02         6.35E+03         1.45E+02           RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         2.09E-01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02         2.06E-02         7.56E+01         1.81E+03         4.13E+02         2.06E-02         7.56E+01         1.81E+03         4.26E+02         3.73E-06         1.59E+02         3.63E+03         8.28E+02         3.73E-06         1.59E-02         3.73E-06         1.59E-03         3.73E-01         8.23E+03         8.28E+02         3.73E-06         1.59E-02         3.73E-01         8.23E+03         8.28E+02         3.73E-06         1.59E-02         3.73E-01         8.23E+03         8.28E+02         3.73E-01         8.23E+03         8.28E+02         3.73E-01         8.23E+03         8.28E+02         3.73E-01         8.23E+03  | RF        | RF-MT0H61  | 7.71   | 4.12E+01 |        |        |        | 1.46E-04 | 6.43E+00 | 2.73E+02 | 6.20E+01 |
| RF         RF-MT3011         420.26         1.61E+02         3.41E-03         2.75E+01         6.45E+02         1.48E+02           RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.67E+02         6.35E+03         1.45E+03           RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         9.20E+01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+02           RF         RF-TT0669         0.21         8.59E-02         3.73E-06         1.59E-02         3.73E-01         1.53E+01           RF         RF-TT0200         0.63         4.46E+00         2.26E-05         6.42E-01         1.53E+01           RF         RF-TT0300         42.32         1.26E+02         8.23E-04         3.33E+01         1.52E+02           RF         RF-TT0300         42.32         1.26E+02         8.23E-0   | RF        | RF-MT2116  | 2.08   | 4.71E+00 |        |        |        | 4.14E-05 | 5.10E-01 | 1.26E+01 | 2.88E+00 |
| RF         RF-MT420P         160.94         1.20E+03         4.63E-03         1.67E+02         6.35E+03         1.45E+03           RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         9.20E+01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+00           RF         RF-TT0069         0.21         8.59E-02         3.73E-06         1.59E-02         3.73E-01         1.53E+01         8.53E-02           RF         RF-TT0200         0.63         4.46E+00         2.26E-05         6.42E-01         1.53E+01         8.53E-04           RF         RF-TT0300         42.32         1.26E+02         8.23E-04         3.33E+01         7.87E+02         1.81E+02           RF         RF-TT0301         5.84         1.74E+01         1.13E-04         4.60E+00         1.09E+02         2.50E+01           RF         RF-TT03   | RF        | RF-MT3010  | 42.81  | 1.82E+01 |        |        |        | 3.03E-04 | 4.06E+00 | 9.61E+01 | 2.20E+01 |
| RF         RF-MT532A         27.50         2.35E+02         6.00E-03         1.68E+01         4.03E+02         9.20E+01           RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.29E+00           RF         RF-TT0069         0.21         8.59E-02         3.73E-06         1.59E-02         3.73E-06         1.59E-02         3.73E-06         6.42E-01         1.53E+01         5.25E+00           RF         RF-TT0200         0.63         4.46E+00         2.26E-05         6.42E-01         1.53E+01         3.52E+00           RF         RF-TT0300         42.32         1.26E+02         8.23E-04         3.33E+01         7.87E+02         1.81E+02           RF         RF-TT0301         5.84         1.74E+01         1.13E-04         4.60E+00         1.09E+02         2.50E+01           RF         RF-TT0303         1.25         5.69E+00         6.78E-05         9.76E-01         2.29E+01  | RF        | RF-MT3011  | 420.26 | 1.61E+02 |        |        |        | 3.41E-03 | 2.75E+01 | 6.45E+02 | 1.48E+02 |
| RF         RF-MT532B         123.42         1.06E+03         2.69E-02         7.56E+01         1.81E+03         4.13E+02           RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+00           RF         RF-T1069         0.21         8.59E-02         3.73E-06         1.59E-02         3.73E-06         1.59E-02         3.73E-01         8.53E-02           RF         RF-T10200         0.63         4.46E+00         2.26E-05         6.42E-01         1.53E+01         3.52E-02           RF         RF-T10300         42.32         1.26E+02         8.23E-04         3.33E+01         7.87E+02         1.81E+02           RF         RF-T10301         5.84         1.74E+01         1.13E-04         4.60E+00         1.09E+02         2.50E+01           RF         RF-T10302         9.28         8.77E-01         5.88E-06         1.56E-01         3.99E+00         9.14E-01           RF         RF-T10303         1.25         5.69E+00         6.78E-05         9.76E-01         2.29E+01         5.23E+00           RF <td>RF</td> <td>RF-MT420P</td> <td>160.94</td> <td>1.20E+03</td> <td></td> <td></td> <td></td> <td>4.63E-03</td> <td>1.67E+02</td> <td>6.35E+03</td> <td>1.45E+03</td>   | RF        | RF-MT420P  | 160.94 | 1.20E+03 |        |        |        | 4.63E-03 | 1.67E+02 | 6.35E+03 | 1.45E+03 |
| RF         RF-MT532C         247.47         2.12E+03         5.40E-02         1.52E+02         3.63E+03         8.28E+02           RF         RF-MT532D         1.56         1.34E+01         3.41E-04         9.57E-01         2.29E+01         5.23E+00           RF         RF-TT0069         0.21         8.59E-02         3.73E-06         1.59E-02         3.73E-01         8.53E-02           RF         RF-TT0200         0.63         4.46E+00         2.26E-05         6.42E-01         1.53E+01         3.52E+00           RF         RF-TT0299         0.21         2.21E+01         8.27E-05         1.19E+00         2.79E+01         6.38E+00           RF         RF-TT0300         42.32         1.26E+02         8.23E-04         3.33E+01         7.87E+02         1.81E+02           RF         RF-TT0301         5.84         1.74E+01         1.13E-04         4.60E+00         1.09E+02         2.50E+01           RF         RF-TT0302         9.28         8.77E-01         5.88E-06         1.56E-01         3.99E+00         9.14E-01           RF         RF-TT0303         1.25         5.69E+00         6.78E-05         9.76E-01         2.29E+01         5.23E+00           RF         RF-TT0312         5.795   | RF        | RF-MT532A  | 27.50  | 2.35E+02 |        |        |        | 6.00E-03 | 1.68E+01 | 4.03E+02 | 9.20E+01 |
| RF       RF-MT532D       1.56       1.34E+01       3.41E-04       9.57E-01       2.29E+01       5.23E+00         RF       RF-TT0069       0.21       8.59E-02       3.73E-06       1.59E-02       3.73E-01       8.53E-02         RF       RF-TT0200       0.63       4.46E+00       2.26E-05       6.42E-01       1.53E+01       3.52E+00         RF       RF-TT0299       0.21       2.21E+01       8.27E-05       1.19E+00       2.79E+01       6.38E+00         RF       RF-TT0300       42.32       1.26E+02       8.23E-04       3.33E+01       7.87E+02       1.81E+02         RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF <td< td=""><td>RF</td><td>RF-MT532B</td><td>123.42</td><td>1.06E+03</td><td></td><td></td><td></td><td>2.69E-02</td><td>7.56E+01</td><td>1.81E+03</td><td>4.13E+02</td></td<>  | RF        | RF-MT532B  | 123.42 | 1.06E+03 |        |        |        | 2.69E-02 | 7.56E+01 | 1.81E+03 | 4.13E+02 |
| RF       RF-TT0069       0.21       8.59E-02       3.73E-06       1.59E-02       3.73E-01       8.53E-02         RF       RF-TT0200       0.63       4.46E+00       2.26E-05       6.42E-01       1.53E+01       3.52E+00         RF       RF-TT0299       0.21       2.21E+01       8.27E-05       1.19E+00       2.79E+01       6.38E+00         RF       RF-TT0300       42.32       1.26E+02       8.23E-04       3.33E+01       7.87E+02       1.81E+02         RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.417E-07       8.99E-02 </td <td>RF</td> <td>RF-MT532C</td> <td>247.47</td> <td>2.12E+03</td> <td></td> <td></td> <td></td> <td>5.40E-02</td> <td>1.52E+02</td> <td>3.63E+03</td> <td>8.28E+02</td>   | RF        | RF-MT532C  | 247.47 | 2.12E+03 |        |        |        | 5.40E-02 | 1.52E+02 | 3.63E+03 | 8.28E+02 |
| RF       RF-TT0200       0.63       4.46E+00       2.26E-05       6.42E-01       1.53E+01       3.52E+00         RF       RF-TT0299       0.21       2.21E+01       8.27E-05       1.19E+00       2.79E+01       6.38E+00         RF       RF-TT0300       42.32       1.26E+02       8.23E-04       3.33E+01       7.87E+02       1.81E+02         RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02   | RF        | RF-MT532D  | 1.56   | 1.34E+01 |        |        |        | 3.41E-04 | 9.57E-01 | 2.29E+01 | 5.23E+00 |
| RF       RF-TT0299       0.21       2.21E+01       8.27E-05       1.19E+00       2.79E+01       6.38E+00         RF       RF-TT0300       42.32       1.26E+02       8.23E-04       3.33E+01       7.87E+02       1.81E+02         RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT-0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01   | RF        | RF-TT0069  | 0.21   | 8.59E-02 |        |        |        | 3.73E-06 | 1.59E-02 | 3.73E-01 | 8.53E-02 |
| RF       RF-TT0300       42.32       1.26E+02       8.23E-04       3.33E+01       7.87E+02       1.81E+02         RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02  | RF        | RF-TT0200  | 0.63   | 4.46E+00 |        |        |        | 2.26E-05 | 6.42E-01 | 1.53E+01 | 3.52E+00 |
| RF       RF-TT0301       5.84       1.74E+01       1.13E-04       4.60E+00       1.09E+02       2.50E+01         RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02  | RF        | RF-TT0299  | 0.21   | 2.21E+01 |        |        |        | 8.27E-05 | 1.19E+00 | 2.79E+01 | 6.38E+00 |
| RF       RF-TT0302       9.28       8.77E-01       5.88E-06       1.56E-01       3.99E+00       9.14E-01         RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+0   | RF        | RF-TT0300  | 42.32  | 1.26E+02 |        |        |        | 8.23E-04 | 3.33E+01 | 7.87E+02 | 1.81E+02 |
| RF       RF-TT0303       1.25       5.69E+00       6.78E-05       9.76E-01       2.29E+01       5.23E+00         RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02 <t< td=""><td>RF</td><td>RF-TT0301</td><td>5.84</td><td>1.74E+01</td><td></td><td></td><td></td><td>1.13E-04</td><td>4.60E+00</td><td>1.09E+02</td><td>2.50E+01</td></t<>  | RF        | RF-TT0301  | 5.84   | 1.74E+01 |        |        |        | 1.13E-04 | 4.60E+00 | 1.09E+02 | 2.50E+01 |
| RF       RF-TT0310       3.13       1.87E+01       1.21E-04       4.58E+00       1.03E+02       2.43E+01         RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.59E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02  | RF        | RF-TT0302  | 9.28   | 8.77E-01 |        |        |        | 5.88E-06 | 1.56E-01 | 3.99E+00 | 9.14E-01 |
| RF       RF-TT0312       57.95       4.77E+02       2.04E-03       8.27E+01       2.25E+03       5.10E+02         RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02   | RF        | RF-TT0303  | 1.25   | 5.69E+00 |        |        |        | 6.78E-05 | 9.76E-01 | 2.29E+01 | 5.23E+00 |
| RF       RF-TT0317       0.21       1.87E-01       4.17E-07       8.99E-02       2.11E+00       4.82E-01         RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01 </td <td>RF</td> <td>RF-TT0310</td> <td>3.13</td> <td>1.87E+01</td> <td></td> <td></td> <td></td> <td>1.21E-04</td> <td>4.58E+00</td> <td>1.03E+02</td> <td>2.43E+01</td>  | RF        | RF-TT0310  | 3.13   | 1.87E+01 |        |        |        | 1.21E-04 | 4.58E+00 | 1.03E+02 | 2.43E+01 |
| RF       RF-TT0320       26.27       1.88E+02       9.48E-04       2.70E+01       6.45E+02       1.48E+02         RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01   | RF        | RF-TT0312  | 57.95  | 4.77E+02 |        |        |        | 2.04E-03 | 8.27E+01 | 2.25E+03 | 5.10E+02 |
| RF       RF-TT0330       15.95       6.95E+01       3.80E-04       9.31E+00       4.03E+02       9.92E+01         RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01   | RF        | RF-TT0317  | 0.21   | 1.87E-01 |        |        |        | 4.17E-07 | 8.99E-02 | 2.11E+00 | 4.82E-01 |
| RF       RF-TT-0331       69.21       3.62E+02       1.99E-03       4.99E+01       1.52E+03       3.41E+02         RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01   | RF        | RF-TT0320  | 26.27  | 1.88E+02 |        |        |        | 9.48E-04 | 2.70E+01 | 6.45E+02 | 1.48E+02 |
| RF       RF-TT-0334       4.07       8.63E+01       3.26E-04       3.61E+01       8.45E+02       1.93E+02         RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01  | RF        | RF-TT0330  | 15.95  | 6.95E+01 |        |        |        | 3.80E-04 | 9.31E+00 | 4.03E+02 | 9.92E+01 |
| RF       RF-TT0335       94.40       1.54E+02       1.76E-03       2.68E+01       7.05E+02       1.62E+02         RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01  | RF        | RF-TT-0331 | 69.21  | 3.62E+02 |        |        |        | 1.99E-03 | 4.99E+01 | 1.52E+03 | 3.41E+02 |
| RF       RF-TT0336       22.52       1.63E+02       5.91E-04       2.48E+01       6.96E+02       1.59E+02         RF       RF-TT0337       47.46       2.06E+02       7.65E-04       2.93E+01       9.17E+02       2.06E+02         RF       RF-TT0338       142.93       8.31E+02       5.21E-03       1.03E+02       3.45E+03       7.77E+02         RF       RF-TT0340       7.30       4.18E+00       8.96E-06       2.10E+00       4.92E+01       1.13E+01  | RF        | RF-TT-0334 | 4.07   | 8.63E+01 |        |        |        | 3.26E-04 | 3.61E+01 | 8.45E+02 | 1.93E+02 |
| RF     RF-TT0337     47.46     2.06E+02     7.65E-04     2.93E+01     9.17E+02     2.06E+02       RF     RF-TT0338     142.93     8.31E+02     5.21E-03     1.03E+02     3.45E+03     7.77E+02       RF     RF-TT0340     7.30     4.18E+00     8.96E-06     2.10E+00     4.92E+01     1.13E+01  | RF        | RF-TT0335  | 94.40  | 1.54E+02 |        |        |        | 1.76E-03 | 2.68E+01 | 7.05E+02 | 1.62E+02 |
| RF     RF-TT0338     142.93     8.31E+02     5.21E-03     1.03E+02     3.45E+03     7.77E+02       RF     RF-TT0340     7.30     4.18E+00     8.96E-06     2.10E+00     4.92E+01     1.13E+01  | RF        | RF-TT0336  | 22.52  | 1.63E+02 |        |        |        | 5.91E-04 | 2.48E+01 | 6.96E+02 | 1.59E+02 |
| RF RF-TT0340 7.30 4.18E+00 8.96E-06 2.10E+00 4.92E+01 1.13E+01   | RF        | RF-TT0337  | 47.46  | 2.06E+02 |        |        |        | 7.65E-04 | 2.93E+01 | 9.17E+02 | 2.06E+02 |
|  | RF        | RF-TT0338  | 142.93 | 8.31E+02 |        |        |        | 5.21E-03 | 1.03E+02 | 3.45E+03 | 7.77E+02 |
| RF RF-TT0342 20.85 4.05E+01 5.58E-04 9.87E+00 2.74E+02 6.14E+01  | RF        | RF-TT0340  | 7.30   | 4.18E+00 |        |        |        | 8.96E-06 | 2.10E+00 | 4.92E+01 | 1.13E+01 |
|  | RF        | RF-TT0342  | 20.85  | 4.05E+01 |        |        |        | 5.58E-04 | 9.87E+00 | 2.74E+02 | 6.14E+01 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code \ | WIPP ID    | Volume | Am-241   | Am-243 | Cm-244 | Cs-137   | Np-237   | Pu-238   | Pu-239   | Pu-240    |
|-------------|------------|--------|----------|--------|--------|----------|----------|----------|----------|-----------|
|             | RF-TT0360  |        | 3.65E+00 |        |        |          | 4.69E-05 |          |          | 3.01E+00  |
| -           | RF-TT0368  |        | 7.30E+01 |        |        |          |          | 1.07E+01 |          |           |
| -           | RF-TT0370  |        | 1.40E+02 |        |        |          |          | 2.31E+01 |          |           |
| -           | RF-TT0371  | 0.21   | 3.02E+00 |        |        |          |          | 4.65E-01 |          | 2.49E+00  |
| -           | RF-TT0372  |        | 3.06E-01 |        |        |          |          |          |          |           |
| -           | RF-TT0374  |        | 9.89E+00 |        |        |          |          | 2.03E+00 |          |           |
| -           | RF-TT0375A |        | 5.63E-02 |        |        |          |          | 2.66E-02 | 6.22E-01 |           |
|             | RF-TT0375B |        | 5.63E-02 |        |        |          |          | 2.66E-02 |          |           |
|             | RF-TT0376  |        | 2.61E+01 |        |        |          | _        | 5.24E+00 |          |           |
|             | RF-TT0377  |        | 1.19E+01 |        |        |          |          | 2.39E+00 |          |           |
|             | RF-TT0391  |        | 3.53E+00 |        |        |          |          | 4.01E-01 |          |           |
|             | RF-TT0392  |        | 1.25E+00 |        |        |          | 4.30E-06 |          |          | 2.01E+00  |
|             | RF-TT0393  |        | 9.38E+01 |        |        |          |          | 1.76E+01 |          |           |
|             | RF-TT0398  |        | 2.20E+00 |        |        |          | 7.48E-06 |          |          | 3.74E+00  |
|             | RF-TT0409  |        | 2.23E+00 |        |        |          | 8.32E-06 |          |          | 1.93E+00  |
|             | RF-TT0412  | -      | 2.23E+00 |        |        |          | 8.32E-06 |          |          | 1.93E+00  |
|             | RF-TT0414  |        | 6.91E+01 |        |        |          | 2.58E-04 |          | 2.64E+02 |           |
|             | RF-TT0430  |        | 9.95E-03 |        |        |          |          | 5.01E-03 |          |           |
|             | RF-TT0431  | -      | 2.55E+00 |        |        |          |          | 1.19E+00 |          |           |
|             | RF-TT0438  |        | 2.44E+02 |        |        |          |          | 4.54E+01 |          |           |
|             | RF-TT0440  |        | 1.97E+01 |        |        |          |          | 3.79E+00 |          |           |
|             | RF-TT0441  |        | 1.10E+02 |        |        |          |          | 2.10E+01 |          |           |
| -           | RF-TT0442  |        | 1.63E+01 |        |        |          |          | 3.56E+00 |          |           |
| -           | RF-TT0443  |        | 1.88E-01 |        |        |          |          |          | 1.86E+00 |           |
| -           | RF-TT0479  |        | 2.16E+00 |        |        |          |          | 1.09E+00 |          |           |
|             | RF-TT0480  |        | 1.88E+02 |        |        | 1.39E-02 | 1.03E-03 |          |          | 1.89E+02  |
| -           | RF-TT0481  |        | 1.33E-01 |        |        | 9.82E-06 |          | 2.48E-02 | 5.84E-01 |           |
| -           | RF-TT0483  |        | 2.66E-01 |        |        | 0.022 00 | 5.70E-07 | 1.34E-01 | 3.13E+00 |           |
| -           | RF-TT0484  |        | 1.85E+00 |        |        |          | 1.74E-05 | 5.55E-01 |          | 2.98E+00  |
| -           | RF-TT0485  |        | 1.82E-01 |        |        |          | 5.95E-07 | 3.43E-02 | 8.02E-01 | 1.84E-01  |
|             | RF-TT0486  |        | 1.08E+00 |        |        |          | 6.58E-06 | 2.03E-01 |          | 1.09E+00  |
| -           | RF-TT0487  |        | 4.95E+00 |        |        |          | 4.35E-05 | 5.36E-01 |          | 3.03E+00  |
| RF I        | RF-TT0489  | 9.38   | 1.49E+00 |        |        |          | 1.24E-05 |          |          | 1.66E+00  |
|             | RF-TT0490  | 252.23 | 6.58E+01 |        |        |          | 5.88E-04 | 1.64E+01 | 3.91E+02 | 8.95E+01  |
| RF I        | RF-TT0491  | 27.79  | 2.15E+00 |        |        |          |          | 2.50E-01 |          |           |
| -           | RF-TT0492  |        | 6.03E-01 |        |        |          |          | 1.50E-01 |          |           |
|             | RF-TT0523A |        | 5.13E+00 |        |        |          |          | 6.02E-01 |          |           |
| RF I        | RF-TT0523B | 1.46   | 5.13E+00 |        |        |          | 4.45E-05 | 6.02E-01 | 1.41E+01 | 3.23E+00  |
|             | RF-TT0523C |        | 5.13E+00 |        |        |          |          | 6.02E-01 |          |           |
|             | RF-TT0523D |        | 5.13E+00 |        |        |          |          | 6.02E-01 |          |           |
|             | RF-TT0523E |        | 5.13E+00 |        |        |          |          | 6.02E-01 |          |           |
| -           | RF-TT0532A |        | 1.37E+02 |        |        |          |          | 9.83E+00 |          |           |
|             | RF-TT0532B |        | 1.37E+02 |        |        |          |          | 9.83E+00 |          |           |
| -           | RF-TT0541  |        | 1.19E-01 |        |        |          | 2.56E-07 | 6.01E-02 | 1.41E+00 | 3.22E-01  |
|             | RF-TT0545  |        | 2.66E-02 |        |        |          |          |          |          | 7.17E-02  |
| -           | RF-TT0601  |        | 1.58E+01 |        |        |          |          | 2.31E+00 |          | 1.31E+01  |
|             | RF-TT0802  |        | 1.89E+03 |        |        |          |          | 1.87E+02 |          |           |
|             | RF-TT0809  |        | 1.36E+02 |        |        |          |          | 1.35E+01 |          |           |
|             |            |        | 2.93E+02 |        |        |          |          |          |          | 3.16E+02  |
| RF I        | RF-TT0821  | 237.15 | 2.93LTUZ |        |        |          | Z.JZL-03 | J.43L+01 | 1.30L+03 | J. 10L+02 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| RF   RF-TT0824   0.21   7.34E-01   6.38E-06   8.06E-02   2.02E-100   4.02E-02   7.17E-02   1.02E-102   5.68E-03   1.00E-02   2.14E-02   5.8EE-03   1.00E-02   2.14E-02   5.8EE-03   1.00E-02   2.14E-02   5.8EE-03   1.00E-02   2.14E-03   5.2EE-02   7.13E-03   7.03EE-03   1.50E-03   5.2EE-02   7.13E-03   7.03EE-03   1.50EE-03   5.0EE-03   5.0E | Site_Code | WIPP ID | Volume  | Am-241   | Am-243 | Cm-244                                  | Cs-137   | Np-237 | Pu-238   | Pu-239   | Pu-240   |
|--|-----------|---------|---------|----------|--------|---|----------|--------|----------|----------|----------|
| RF FTT0824         1025.18 5.684-02         6.61E-03 1,005-02         2.41E-03 5,55E-02           RF RFTT0825         5.61E-02         7.13E-03         7.82E-01         1.96E-03         4.77E-02           RF RFTT0832         151.00         3.41E-02         3.00E-03         3.0   |           |         |         |          |        | • |          |        |          |          |          |
| RF RF-TT0825   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT0832         151.0         3.416+02         3.00E-03         3.60E-02         3.66E-02         2.06E-02           RF         RF-TT0864         2.19         7.28E-02         1.56E-07         3.66E-02         8.58E-01         1.96E-01         1.56E-07         3.66E-02         8.58E-01         1.96E-01         3.58E-02         2.84E-08         6.27E-03         1.55E-01         3.55E-01         3.55E-01         3.55E-01         3.55E-02         3.67E-03         3.95E-01         1.90E-01         4.32E-00         8.75E-03         3.95E-01         1.90E-01         4.32E-00         8.75E-03         3.95E-01         1.90E-01         4.32E-00         8.75E-03         3.95E-01         5.95E-01         4.95E-02         4.95E-03         3.95E-01         5.95E-01         3.95E-01   |           |         |         |          |        |   |          |        |          |          |          |
| RF T0854         2.19 7285-02         1.56E-07         3.86E-02         3.86E-02         3.86E-02         1.96E-01         3.86E-02         1.96E-01         3.86E-02         1.96E-01         3.86E-02         1.96E-01         3.86E-02         1.96E-01         3.56E-02         1.96E-01         3.56E-02         1.96E-01         3.56E-02         1.96E-01         3.56E-02         1.96E-01         4.32E-02         1.96E-01         3.67E-03         4.93E-01         1.96E-01         4.32E-02         3.67E-03         4.93E-01         1.96E-01         4.32E-02         3.67E-03         3.93E-01         1.7E-03         2.67E-02         7.67E-03         1.9E-03         4.7E-03         3.67E-03         4.9E-03         4.7E-03         3.67E-03         4.9E-03         4.7E-03         3.67E-03         4.9E-03         4.7E-03         3.67E-03         4.7E-03         3.6E-02         3.6FE-03         4.7E-03         3.6E-03         4.   | RF        |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT0866         0.21         1.33E-02         2.84E-08         6.67E-03         1.58E-01         3.58E-02           RF         RF-TT2016         3.13         7.05E-00         6.00E-05         7.65E-01         1.39E-01         4.32E+00           RF         RF-TT3011         1763.69         2.21E-02         3.37E-03         4.38E-00         1.14E-04         1.16E-02         2.71E-03         6.98E-01           RF         RF-TT3011         1763.69         6.74E-02         1.43E-02         1.16E-02         2.71E-03         6.98E-01           RF         RF-TT3011         1763.69         6.74E-02         1.44E-04         1.16E-02         2.71E-03         6.98E-01           RF         RF-TT301D         2.271         2.13E-01         8.15E-05         3.93E-01         1.22E-02         2.68E-01           RF         RF-TT338S         0.42         3.59E-00         1.25E-05         4.86E-01         0.56E-01         0.66E-01           RF         RF-TT391P         2.271         1.92E-02         8.61E-04         2.91E-01         1.34E-03         7.98E-01         2.71E-00         8.72E-03         1.34E-01         7.75E-01         1.24E-03         7.75E-04         1.25E-01         4.25E-01         1.24E-03         8  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT2216         3.13         7.06E+00         6.20E-05         7.68E-01         4.32E+00           RF         RF-TT3010         519.26         2.21E+02         3.07E-03         4.33E-01         1.77E-03         2.67E+02           RF         RF-TT3011         1763.68         6.74E+02         1.43E-02         1.16E-04         2.71E-03         6.76E+02           RF         RF-TT3010         1.56.36         3.34E-01         4.14E-04         1.51E-04         3.03E-02         8.48E-01           RF         RF-TT3010         2.71         2.13E-01         8.15E-05         3.89E-01         4.21E-00         0.64E-01           RF         RF-TT3010         2.71         2.25E-01         8.33E-07         1.80E-01         2.25E-01         4.21E-00         9.64E-01           RF         RF-TT390P         0.42         3.59E-00         1.25E-05         4.88E-01         2.21E-01         2.01E-01         9.21E-02         2.01E-01   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT3010         519.26         2218-02         3.67E-03         498E-01         1.77E-03         267E-02           RF         RF-TT3011         1763.08         6.74E-02         1.43E-02         1.16E-02         2.77E-03         6.19E-02           RF         RF-TT301U         15.68         6.34E-01         4.44E-04         1.1EE-01         3.63E-02         8.44E-01           RF         RF-TT330P         2.72         2.13E-01         8.15E-05         3.93E-00         1.22E-02         2.66E-01           RF         RF-TT330P         0.42         3.74E-01         8.61E-04         2.19E-01         4.21E-00         8.61E-04         2.19E-01         4.21E-00         2.66E-01           RF         RF-TT390P         0.42         3.59E-02         8.61E-04         2.19E-01         4.21E-00         2.67E-02         8.61E-04         2.19E-01         4.21E-00         2.66E-01         4.21E-03         3.68E-01         2.01E-04         1.34E-01         4.22E-02         2.66E-01         4.22E-03         1.5EE-02         1.34E-01         4.22E-03         3.68E-01         4.22E-03         1.27E-03         8.68E-01         4.22E-04         4.75E-03         8.28E-01         3.28E-01         4.22E-04         4.75E-04         4.26E-03         4.2   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT3011         1763.69         6.74E+02         1.43E-02         1.16E+02         2.71E+03         6.19E+02           RF         RF-TT301U         1563         6.34E+01         4.14E-04         1.5TE+01         3.58E+02         8.44E+01           RF         RF-TT310P         2.71         2.13E+01         8.15E+05         3.69E+00         1.22E+00         8.61E+04         2.21E+00         9.68E+01           RF         RF-TT339P         0.42         3.74E+01         8.33E+07         1.80E-01         2.21E+00         9.68E+01           RF         RF-TT390P         0.42         3.59E+00         1.25E+05         4.86E+01         2.01E+01         3.21E+02         2.01E+04         3.21E+02         2.01E+04         3.21E+02         2.01E+04         3.21E+01         2.02E+01         2.02E+01         2.02E+01         3.26E+01         9.21E+02         0.21E+03         3.0E+01         2.21E+00         1.31E+03         7.89E+01         2.26E+01         9.0E+01         3.0E+01         8.29E-01         3.26E+01         9.23E+00         8.29E-01         3.26E+01         9.23E+00         8.29E-01         3.26E+01         9.23E+00         9.23E+00         9.23E+00         9.23E+00         9.23E+00         9.23E+00         9.23E+00         9.23E+00  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT301U         15.63 G 348-01         4.14E-04 8.15E-05 3,93E-00         8.24E-02 2,65E+01           RF         RF-TT310P         2.71 2,13E-01         8.15E-05 3,93E-00         1.22E-02 2,65E+01           RF         RF-TT338S         0.42 3,74E-01         8.33E-07 1,80E-01         4.21E+00 1         4.21E+00 1           RF         RF-TT39P         0.42 3,59E-00         1.25E-05 4,88E-01         2.05E+01         4.21E+00 1         2.07E+02 2           RF         RF-TT39IP         2.27 2,192E-02         8.61E-04 2,19E-01         9.21E-02         2.07E-02           RF         RF-TT39EP         65.24 3,91E-02         1.34E-03 7,89E-01         2.76E-03         6.29E-03           RF         RF-TT39BP         65.24 3,91E-02         1.34E-03 7,89E-01         2.76E-03         6.29E-01         6.27E-03         6.29E-01         2.76E-03         6.29E-01         3.26E-02         7.76E-04         4.92E-02         9.82E-01         3.26E-01         9.26E-01         9.26E-01         9.26E-01         3.26E-02         7.75E-04         4.09E-01         3.36E-02         7.75E-04         4.09E-01         3.26E-02         7.75E-04         4.09E-01         3.27E-02         7.75E-04         4.00E-01         3.27E-02         7.75E-04         4.00E-01         3.27E-02         7.75E-04   |           |         |         | -        |        |   |          |        |          |          |          |
| RF         RF-TT310P         2.71         2.13E-01         8.15E-06         8.93E+00         1.22E-02         2.65E-01           RF         RF-TT338S         0.42         3.74E-01         8.33E-07         1.80E-01         4.21E+00         9.64E-01         4.21E+00         9.64E-01         4.21E+00         9.64E-01         4.21E+01         9.21E+02         8.61E-04         2.19E+01         2.21E+02         2.07E-02         8.61E-04         2.19E+01         9.21E+02         2.07E-06         2.01E-04         1.34E-03         7.89E-01         2.07E-06         2.07E-00         2.01E-04         1.34E-03         7.89E-01         2.07E-00         2.01E-04         1.34E-03         7.89E-01         4.22E+02         9.68E-01           RF         RF-TT39SP         0.62         3.14E-00         0.47E-05         8.29E-01         3.26E-01         9.26E-01         9.26E-01         9.26E-01         9.26E-01         9.26E-02         9.77E-01         1.09E-01         9.21E-02         9.77E-01         1.09E-01         9.21E-02         9.77E-01         1.09E-01         9.21E-02         9.76E-04         9.26E-01         9.26E-01 </td <td></td>  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT338S         0.42         3.74E-01         8.33E-07         1.80E-01         4.21E+00         9.64E-01           RF         RF-TT39IP         0.42         3.59E+00         1.25E-05         4.88E-01         2.05E+01         4.31E+00           RF         RF-TT39IP         2.27Z         1.92E+02         8.81E-04         1.34E-03         7.89E+01         2.76E+03         6.29E+02           RF         RF-TT339P         65.24         3.91E+02         1.34E-03         7.89E+01         2.76E+03         6.29E+02         9.88E-01           RF         RF-TT339P         0.63         1.559E+01         2.01E-04         1.34E-03         7.89E+01         6.29E-01         2.98E-01         6.98E-01         6.98E-01         6.98E-01         6.98E-01         6.98E-01         6.98E-01         6.98E-01         6.98E-01         7.77E-01         1.98E-01         6.98E-01         7.77E-01         1.98E-01         2.21E-00         8.98E-01         2.26E-01         2.28E-02         7.77E-01         1.99E-01         2.31E-00         7.77E-01         1.99E-01         2.31E-00         7.77E-01         1.99E-01         2.28E-02         7.77E-01         1.99E-01         2.77E-01         1.99E-01         2.77E-01         1.99E-01         2.77E-01         1.99E-01   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT390P         0.42         3.59E+00         1.25E-05         4.88E-01         2.05E+01         4.31E+00           RF         RF-TT391P         22.72         1.92E+02         8.61E-04         2.19E+01         9.21E+02         2.07E+02           RF         RF-TT392P         65.24         1.91E+02         1.34E+03         4.22E+02         9.68E+01           RF         RF-TT393R         12.51         5.59E+01         2.01E-04         1.34E+03         4.22E+02         9.68E+01           RF         RF-TT393P         0.62         8.14E+00         8.47E-05         8.29E-01         3.06E+01         6.91E+00           RF         RF-TT396P         0.21         2.72E+00         2.88E-05         2.77E-01         1.09E+01         2.31E+00           RF         RF-TT398P         43.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT398P         43.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.76E+02           RF         RF-TT398R         69.83         2.44E+03         3.08E-04         8.2E+01         2.75E+03         6.2E+01           RF         RF-TT491R         7.79         8.25E+01   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT391P         22.72         1.92E+02         8.61E-04         2.19E+01         9.21E+02         2.07E+02           RF         RF-TT392P         65.24         3.91E+02         1.34E-03         7.88E+01         2.01E-04         3.788E+01         2.01E-04         3.26E+01         2.01E-04         2.01E-04         2.01E-04         2.01E-04         3.26E+01         6.29E+02         9.88E+01         6.91E+00         8.47E-05         8.29E-01         3.26E+01         6.91E+00         8.47E-05         8.29E-01         1.11E+00         4.36E-01         1.77E-01         1.96E+01         2.36E-00         7.77E-01         1.96E-01         2.36E-00         7.77E-01         1.96E-01         2.36E-00         7.77E-01         1.96E-01         2.36E-01         3.06E-02         8.92E-01         2.76E-03         6.26E+02         8.77E-01         3.96E-03         3.72E-00         7.36E-03         8.72E-01         2.46E-01         4.76E-01         2.96E-01         3.96E-02         7.75E-03         6.26E+02         7.77E-01   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT392P         65.24         3.91E+02         1.34E-03         7.89E+01         2.76E+03         6.29E+02           RF         RF-TT393R         12.51         5.59E+01         2.01E-04         1.34E+01         4.22E+02         9.68E+01           RF         RF-TT395P         0.62         8.14E+00         8.47E-06         8.29E-01         3.26E+01         9.68E+01           RF         RF-TT395P         0.83         1.09E+01         1.13E-04         1.11E-00         4.36E+01         9.23E+00           RF         RF-TT396P         0.21         2.72E+00         2.38E-05         2.77E-01         1.09E+01         2.31E-00           RF         RF-TT398R         69.83         2.44E+03         3.06E-02         8.9EE-01         2.76E+02           RF         RF-TT398R         69.83         2.44E+03         3.06E-04         8.01E-00         3.15E-02         7.73E-01           RF         RF-TT439R         69.83         2.44E+03         3.06E-04         8.01E-00         2.76E-02         3.06E-04         2.76E-03         6.26E+02           RF         RF-TT439R         2.08         1.97E+02         1.83E-03         1.72E+00         7.75E-04         1.62E-01         1.62E-01         1.62E-01         <   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT393R         12.51         5.59E+01         2.01E-04         1.34E+01         4.22E+02         9.68E+01           RF         RF-TT394P         0.62         8.14E+00         8.47E-05         8.29E-01         3.26E+01         6.91E+00           RF         RF-TT396P         0.83         1.09E+01         1.13E-04         1.13E-04         4.36E+01         9.23E+00           RF         RF-TT396P         0.21         2.72E+00         2.38E-05         2.77E-01         1.09E-01         2.31E+00           RF         RF-TT396P         0.21         2.72E+00         7.75E-04         4.80E+01         1.71E+03         3.7EE-01         3.06E-02         8.2E+01         1.75E-04         4.80E-01         1.71E+03         3.7EE-02         7.75E-04         4.80E-01         1.71E+03         3.7EE-02         7.75E-04         4.80E-01         2.75E-00         6.2EE-02           RF         RF-TT439R         6.98.3         2.48E+03         8.9EE-00         3.15E-02         7.73E-01         8.2EE-01         3.06E-02         8.9EE-00         3.0EE-01         1.2EE-01         2.2EE-01         7.73E-04         4.7EE-00         3.0EE-01         1.2EE-01         2.2EE-01         2.2EE-01         4.2EE-01         2.2EE-01         2.2EE-01         2.2E   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT394P         0.62         8.14E+00         8.47E-05         8.29E-01         3.26E+01         6.91E+00           RF         RF-TT395P         0.83         1.09E+01         1.13E-04         1.11E-04         4.36E+01         9.23E+00           RF         RF-TT396P         0.21         2.72E+00         2.83E-02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT398P         44.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT398P         69.83         2.44E+03         3.08E-04         8.01E+00         3.15E+02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT439R         69.83         2.44E+03         3.08E-04         8.01E+00         3.15E+02         7.73E+01         3.08E-04         8.01E+00         3.15E+02         7.73E+01         3.08E-04         8.01E+00         3.15E+02         7.73E+01         3.08E-04         8.01E+00         3.15E+02         7.13E+01         3.08E-04         8.01E+00         3.15E+02         1.32E+02         3.08E-04         8.01E+00         3.28E+02         8.0E-01         1.22E+01         3.2EE+02         3.0EE+02         4.2EE+02         4.0E   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT395P         0.83         1.09E+01         1.13E-04         1.11E+00         4.36E+01         9.23E+00           RF         RF-TT396P         0.21         2.72E+00         2.83E-05         2.77E-01         1.09E+01         2.31E+00           RF         RF-TT396P         43.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT398P         69.83         2.44E+03         3.06E-02         8.92E+01         2.76E+03         6.26E+02           RF         RF-TT411R         7.71         8.25E+01         3.08E-04         8.01E+00         3.15E+02         7.73E+01           RF         RF-TT429R         2.06         1.97E+02         1.83E-03         8.01E+00         3.15E+02         7.36E+01         4.89E-03         6.98E+01         4.26E+01         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT438X         0.42         2.00E+01         2.28TE-04         4.05E-01         1.26E+03         3.66E+02           RL         RL-T101         567.94         2.51E+01         2.48E+01         8.75E+02         6.21E+01           RL         RL-T101         567.94         2.51E+01         2.3EE+03 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT398P         0.21         2.72E+00         2.83E-05         2.77E-01         1.09E+01         2.31E+00           RF         RF-TT398P         43.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.67E+02           RF         RF-TT398R         69.83         2.44E+03         3.06E-02         8.92E+01         2.76E+03         6.66E+02           RF         RF-TT411R         7.71         8.25E+01         3.08E-04         8.01E+00         3.15E+02         7.73E+01           RF         RF-TT429R         2.08         1.97E+02         1.83E-03         1.72E+00         7.03E+01         1.62E+01           RF         RF-TT433X         0.63         6.19E+01         2.42E-04         4.76E-01         2.10E+01         4.21E+00           RF         RF-TT456R         7.09         4.43E+02         4.89E-03         6.89E+00         2.75E+02         6.2E1E+01           RF         RF-TT456R         7.02         4.43E+02         4.89E-01         1.62E+01         3.68E+00           RL         RL-T101         567.94         2.51E+01         2.9E-01         3.13E+02         1.96E+02         1.6EE+02           RL         RL-T102         20.12         1.23E+01  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT398P         43.15         2.28E+02         7.75E-04         4.80E+01         1.71E+03         3.87E+02           RF         RF-TT398R         69.83         2.44E+03         3.06E-02         8.92E+01         2.76E+03         6.26E+02           RF         RF-TT411R         7.71         8.25E+01         3.08E-04         8.01E+00         3.15E+02         7.36E+01           RF         RF-TT429R         2.08         1.97E+02         1.38E-03         1.72E+00         7.30E+01         1.62E+01           RF         RF-TT433X         0.63         6.19E+01         2.42E-04         4.76E-01         2.10E+01         4.21E+00           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.98E+00         2.75E+02         6.2EE+01           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.98E+00         2.75E+02         6.2EE+01   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT398R         69.83         2.44E+03         3.06E-02         8.92E+01         2.76E+03         6.26E+02           RF         RF-TT411R         7.71         8.25E+01         3.08E-04         8.01E+00         3.15E+02         7.13E+01           RF         RF-TT429R         2.08         1.97E+02         1.83E-03         1.72E+00         7.05E+01         1.62E+01           RF         RF-TT439R         2.08         1.97E+02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT454X         0.42         2.60E+01         2.51E+01         2.46E+01         1.62E+01         3.68E+00         2.75E+02         6.21E+01           RL         RL-T101         567.94         2.51E+01         2.90E-01         2.46E+01         1.52E+01         3.66E+00         1.66E+01         5.06E+00         2.86E+03         4.25E+02         4.56E+02         2.56E+03         3.91E+02         2.56E+03         6.21E+01         4.47E+04         4.62E+02         2.56E+03         6.21E+01         3.0E+02         2.56E+03         3.15E+02         4.26E+01         2.56E+03   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT411R         7.71         8.25E+01         3.08E-04         8.01E+00         3.15E+02         7.13E+01           RF         RF-TT429R         2.08         1.97E+02         1.83E-03         1.72E+00         7.30E+01         1.62E+01           RF         RF-TT433X         0.63         6.19E+01         2.42E-04         4.76E-01         2.10E+01         4.21E+00           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT454X         0.42         2.60E+01         2.87E-04         4.05E-01         1.62E+01         3.66E+00           RL         RL-T101         567.94         2.51E+01         2.46E+01         8.75E+02         2.50E-03           RL         RL-T102         20.12         1.23E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         9.96.3         5.03E+01         2.90E-01         3.91E-02         3.58E-03           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T105         80.40         1.37E-02         3.91E-02         1.68E-01         5.09E-00   |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT429R         2.08         1.97E+02         1.83E-03         1.72E+00         7.30E+01         1.62E+01           RF         RF-TT433X         0.63         6.19E+01         2.42E-04         4.76E-01         2.10E+01         4.21E+00           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT454X         0.42         2.60E+01         2.87E-04         4.05E-01         1.62E+01         1.66E+00           RL         RL-T101         567.94         2.51E+01         2.46E+01         8.75E+02         1.96E+02           RL         RL-T103         99.63         5.03E+01         2.90E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.82E+02         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.50E+03           RL         RL-T106         8.11         7.13E-04         1.66E-01         5.90E+00         1.32E+00           RL         RL-T107         6156.09         3.95E+00         3.71E+01         9.75E+04         <  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT433X         0.63         6.19E+01         2.42E-04         4.76E-01         2.10E+01         4.21E+00           RF         RF-TT436R         7.09         4.43E+02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT454X         0.42         2.60E+01         2.51E+01         2.60E+01         1.62E+01         1.62E+01         3.66E+00         2.75E+02         2.60E+01         2.60E+01         2.60E+01         2.60E+01         2.60E+01         2.60E+01         2.60E+01         2.60E+01         2.60E+01         3.13E-04         4.05E-01         1.62E+02         2.60E+02         2.60E+01         2.50E+01         3.13E-04         4.12E-02         2.50E-03         3.60E+00         2.90E-01         2.98E+01         3.5E+02         2.50E-03         3.60E+00         3.50E+01         4.30E-04         4.47E-04         1.59E-02         2.50E-03         3.50E+01         3.91E-02         1.69E-01         3.59E-02         3.58E-03         3.50E+01         3.91E-02         1.69E-01         3.59E-02         3.58E-03         3.71E+01         9.75E-04         1.69E-01         3.59E-02         3.58E-03         3.71E+01         9.75E-04         1.69E-01         3.69E-01         3.59E-02         3.69E-01         3.69E-01         3.77E-00 <td></td>  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT436R         7.09         4.48E-02         4.89E-03         6.89E+00         2.75E+02         6.21E+01           RF         RF-TT454X         0.42         2.60E+01         2.87E-04         4.05E-01         1.62E+01         3.66E+00           RL         RL-T101         567.94         2.51E+01         2.46E+01         8.75E+02         1.90E+02           RL         RL-T102         200.12         1.23E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.58E-03         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T105         80.40         1.37E-02         3.91E-02         1.69E-01         6.04E+00         1.32E+00           RL         RL-T106         8.11         7.13E-02         1.69E-01         9.75E+04         1.63E+01         3.46E+03         1.69E-01         6.04E+03         1.32E+00         3.41E+01         4.43E+03         4.43E+03         4.43E+03         4.43E+03         4.43E+03         4.43E+03         4.44E+03         4.52E+00         4.50E+03         4.50E+03         4.50E+03  |           |         |         |          |        |   |          |        |          |          |          |
| RF         RF-TT454X         0.42         2.60E+01         2.87E-04         4.05E-01         1.62E+01         3.66E+00           RL         RL-T101         567.94         2.51E+01         2.46E+01         8.75E+02         1.96E+02           RL         RL-T102         200.12         1.23E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.82E+02         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T106         8.11         7.13E-02         1.69E-01         6.04E+00         1.35E+00           RL         RL-T106         8.11         7.13E-04         1.66E-01         5.90E+00         1.32E+00           RL         RL-T107         6156.09         3.95E+00         3.71E+01         9.75E+04         1.63E+04         3.64E+03           RL         RL-T108         192.62         1.96E-02         1.66E+01         1.276E+00         3.64E+03           RL         RL-T109         19.72         7.32E-02         1.07E-02         3.46E-01         1.23E+01         2.76E+00           RL <td></td>   |           |         |         |          |        |   |          |        |          |          |          |
| RL         RL-T101         567.94         2.51E+01         2.46E+01         8.75E+02         1.96E+02           RL         RL-T102         200.12         1.23E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.82E+02         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T105         80.40         1.37E-02         3.91E-02         1.69E-01         6.04E+00         1.35E+00           RL         RL-T106         8.11         7.13E-04         1.66E-01         5.90E+00         1.35E+00           RL         RL-T107         6156.09         3.95E+00         3.71E+01         9.75E+04         1.63E+04         3.64E+03           RL         RL-T108         192.62         1.96E-02         1.68E+01         9.28E+00         2.08E+00           RL         RL-T109         19.72         7.32E-02         1.07E-02         3.46E-01         1.23E+01         2.76E+00           RL         RL-T110         494.03         2.77E+00         5.20E+00         6.60E+01         1.41E+03         3.17E+02   |           |         |         |          |        |   |          |        |          |          |          |
| RL         RL-T102         200.12         1.23E-01         3.13E-04         1.12E-02         2.50E-03           RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.82E+02         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T105         80.40         1.37E-02         3.91E-02         1.69E-01         6.04E+00         1.35E+00           RL         RL-T106         8.11         7.13E-04         1.66E-01         5.90E+00         1.35E+00           RL         RL-T107         6156.09         3.95E+00         3.71E+01         9.75E+04         1.63E+04         3.64E+03           RL         RL-T108         192.62         1.96E-02         1.68E+01         9.28E+00         2.08E+00           RL         RL-T109         19.72         7.32E-02         1.07E-02         3.46E-01         1.23E+01         2.76E+00           RL         RL-T110         494.03         2.77E+00         5.20E+00         6.60E+01         1.41E+03         3.17E+02           RL         RL-T112         137.74         6.08E+01         1.17E-01         2.79E+01         1.87E+02 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>2.51E+01</td><td></td><td></td><td></td><td></td></t<>  |           |         |         |          |        |   | 2.51E+01 |        |          |          |          |
| RL         RL-T103         99.63         5.03E+01         2.90E-01         2.98E+01         3.82E+02         8.50E+01           RL         RL-T104         4.99         4.30E-04         4.47E-04         1.59E-02         3.58E-03           RL         RL-T105         80.40         1.37E-02         3.91E-02         1.69E-01         6.04E+00         1.35E+00           RL         RL-T106         8.11         7.13E-04         1.66E-01         5.90E+00         1.32E+00           RL         RL-T107         6156.09         3.95E+00         3.71E+01         9.75E+04         1.63E+04         3.64E+03           RL         RL-T108         192.62         1.96E-02         1.68E+01         9.28E+00         2.08E+00           RL         RL-T109         19.72         7.32E-02         1.07E-02         3.46E-01         1.23E+01         2.76E+00           RL         RL-T110         494.03         2.77E+00         5.20E+00         6.60E+01         1.41E+03         3.17E+02           RL         RL-T112         137.74         6.08E+01         1.17E-01         2.79E+01         1.87E+02         4.19E+01           RL         RL-T113         42.80         8.64E-03         5.39E-02         6.16E-01 <td< td=""><td>RL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>   | RL        |         |         |          |        |   |          |        |          |          |          |
| RL       RL-T104       4.99       4.30E-04       4.47E-04       1.59E-02       3.58E-03         RL       RL-T105       80.40       1.37E-02       3.91E-02       1.69E-01       6.04E+00       1.35E+00         RL       RL-T106       8.11       7.13E-04       1.66E-01       5.90E+00       1.32E+00         RL       RL-T107       6156.09       3.95E+00       3.71E+01       9.75E+04       1.63E+04       3.64E+03         RL       RL-T108       192.62       1.96E-02       1.68E+01       9.28E+00       2.08E+00         RL       RL-T109       19.72       7.32E-02       1.07E-02       3.46E-01       1.23E+01       2.76E+00         RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01 </td <td></td>   |           |         |         |          |        |   |          |        |          |          |          |
| RL       RL-T105       80.40       1.37E-02       3.91E-02       1.69E-01       6.04E+00       1.35E+00         RL       RL-T106       8.11       7.13E-04       1.66E-01       5.90E+00       1.32E+00         RL       RL-T107       6156.09       3.95E+00       3.71E+01       9.75E+04       1.63E+04       3.64E+03         RL       RL-T108       192.62       1.96E-02       1.68E+01       9.28E+00       2.08E+00         RL       RL-T109       19.72       7.32E-02       1.07E-02       3.46E-01       1.23E+01       2.76E+00         RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+01       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00<  | RL        | RL-T104 |         |          |        |   | 4.30E-04 |        |          | 1.59E-02 | 3.58E-03 |
| RL       RL-T106       8.11       7.13E-04       1.66E-01       5.90E+00       1.32E+00         RL       RL-T107       6156.09       3.95E+00       3.71E+01       9.75E+04       1.63E+04       3.64E+03         RL       RL-T108       192.62       1.96E-02       1.68E+01       9.28E+00       2.08E+00         RL       RL-T109       19.72       7.32E-02       1.07E-02       3.46E-01       1.23E+01       2.76E+00         RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       3.99E-01       3.45E+01       1.53E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02  | RL        | RL-T105 | 80.40   | 1.37E-02 |        |   | 3.91E-02 |        | 1.69E-01 | 6.04E+00 | 1.35E+00 |
| RL       RL-T108       192.62       1.96E-02       1.68E+01       9.28E+00       2.08E+00         RL       RL-T109       19.72       7.32E-02       1.07E-02       3.46E-01       1.23E+01       2.76E+00         RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T123       0.62       4.48E-01       1.59E+03<  | RL        | RL-T106 | 8.11    |          |        |   | 7.13E-04 |        | 1.66E-01 | 5.90E+00 | 1.32E+00 |
| RL       RL-T109       19.72       7.32E-02       1.07E-02       3.46E-01       1.23E+01       2.76E+00         RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       9.36E+01       2.10E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.53E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02 </td <td>RL</td> <td>RL-T107</td> <td>6156.09</td> <td>3.95E+00</td> <td></td> <td></td> <td>3.71E+01</td> <td></td> <td>9.75E+04</td> <td>1.63E+04</td> <td>3.64E+03</td>   | RL        | RL-T107 | 6156.09 | 3.95E+00 |        |   | 3.71E+01 |        | 9.75E+04 | 1.63E+04 | 3.64E+03 |
| RL       RL-T110       494.03       2.77E+00       5.20E+00       6.60E+01       1.41E+03       3.17E+02         RL       RL-T112       137.74       6.08E+01       1.17E-01       2.79E+01       1.87E+02       4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T123       0.62       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01<  | RL        | RL-T108 | 192.62  |          |        |   | 1.96E-02 |        | 1.68E+01 | 9.28E+00 | 2.08E+00 |
| RL       RL-T112       137.74 6.08E+01       1.17E-01       2.79E+01       1.87E+02 4.19E+01         RL       RL-T113       42.80       8.64E-03       5.39E-02 6.16E-01 1.38E-01         RL       RL-T114       19.58       5.10E-02 2.63E+00 9.36E+01 2.10E+01         RL       RL-T115       1025.43 1.57E+02 1.94E-01 8.52E+01 1.23E+03 2.76E+02         RL       RL-T116 11.02 1.05E+01 4.32E+00 1.53E+02 3.44E+01         RL       RL-T118 261.96 3.79E+01 3.99E-01 3.45E+01 1.52E+02 3.41E+01         RL       RL-T120 133.81 6.60E+00 7.22E-02 3.62E+00 4.50E+01 1.00E+01         RL       RL-T122 29.30 8.98E+00 1.53E-01 5.42E+00 1.22E+00         RL       RL-T123 0.62 1.53E-01 5.42E+00 1.22E+00         RL       RL-T123 0.62 1.51E 1.07E+02 1.59E-03 1.11E+02 3.33E+02 1.72E+02         RL       RL-T125 1.51B 1.07E+02 1.59E-03 1.11E+02 3.33E+02 1.72E+02         RL       RL-T127 283.60 3.23E+02 9.06E-01 2.79E+01 9.95E+02 2.23E+02         RL       RL-T128 0.42 7.08E-01 2.14E-02 6.78E-07 2.42E-05 5.41E-06         RL       RL-T129 28.75 7.51E-02 1.29E+02 1.37E+01 3.05E+00  | RL        | RL-T109 | 19.72   | 7.32E-02 |        |   | 1.07E-02 |        | 3.46E-01 | 1.23E+01 | 2.76E+00 |
| RL       RL-T113       42.80       8.64E-03       5.39E-02       6.16E-01       1.38E-01         RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05 <td>RL</td> <td>RL-T110</td> <td>494.03</td> <td>2.77E+00</td> <td></td> <td></td> <td>5.20E+00</td> <td></td> <td>6.60E+01</td> <td>1.41E+03</td> <td>3.17E+02</td>   | RL        | RL-T110 | 494.03  | 2.77E+00 |        |   | 5.20E+00 |        | 6.60E+01 | 1.41E+03 | 3.17E+02 |
| RL       RL-T114       19.58       5.10E-02       2.63E+00       9.36E+01       2.10E+01         RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01 <td>RL</td> <td>RL-T112</td> <td></td> <td></td> <td></td> <td></td> <td>1.17E-01</td> <td></td> <td>2.79E+01</td> <td>1.87E+02</td> <td>4.19E+01</td>   | RL        | RL-T112 |         |          |        |   | 1.17E-01 |        | 2.79E+01 | 1.87E+02 | 4.19E+01 |
| RL       RL-T115       1025.43       1.57E+02       1.94E-01       8.52E+01       1.23E+03       2.76E+02         RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01       3.05E+00  | RL        | RL-T113 | 42.80   |          |        |   | 8.64E-03 |        | 5.39E-02 | 6.16E-01 | 1.38E-01 |
| RL       RL-T116       11.02       1.05E+01       4.32E+00       1.53E+02       3.44E+01         RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01       3.05E+00  | RL        | RL-T114 | 19.58   |          |        |   | 5.10E-02 |        | 2.63E+00 | 9.36E+01 | 2.10E+01 |
| RL       RL-T118       261.96       3.79E+01       3.99E-01       3.45E+01       1.52E+02       3.41E+01         RL       RL-T120       133.81       6.60E+00       7.22E-02       3.62E+00       4.50E+01       1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01       3.05E+00   | RL        | RL-T115 | 1025.43 | 1.57E+02 |        |   | 1.94E-01 |        | 8.52E+01 | 1.23E+03 | 2.76E+02 |
| RL       RL-T120       133.81 6.60E+00       7.22E-02       3.62E+00 4.50E+01 1.00E+01         RL       RL-T122       29.30       8.98E+00       1.53E-01 5.42E+00 1.22E+00         RL       RL-T123       0.62       4.48E-01 1.59E+01 3.58E+00         RL       RL-T125       15.18 1.07E+02       1.59E-03 1.11E+02 3.33E+02 1.72E+02         RL       RL-T127       283.60 3.23E+02 9.06E-01 2.79E+01 9.95E+02 2.23E+02         RL       RL-T128       0.42 7.08E-01 2.14E-02 6.78E-07 2.42E-05 5.41E-06         RL       RL-T129       28.75       7.51E-02 1.29E+02 1.37E+01 3.05E+00  | RL        | RL-T116 | 11.02   |          |        |   | 1.05E+01 |        | 4.32E+00 | 1.53E+02 | 3.44E+01 |
| RL       RL-T122       29.30       8.98E+00       1.53E-01       5.42E+00       1.22E+00         RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01       3.05E+00   | RL        | RL-T118 | 261.96  | 3.79E+01 |        |   | 3.99E-01 |        | 3.45E+01 | 1.52E+02 | 3.41E+01 |
| RL       RL-T123       0.62       4.48E-01       1.59E+01       3.58E+00         RL       RL-T125       15.18       1.07E+02       1.59E-03       1.11E+02       3.33E+02       1.72E+02         RL       RL-T127       283.60       3.23E+02       9.06E-01       2.79E+01       9.95E+02       2.23E+02         RL       RL-T128       0.42       7.08E-01       2.14E-02       6.78E-07       2.42E-05       5.41E-06         RL       RL-T129       28.75       7.51E-02       1.29E+02       1.37E+01       3.05E+00  | RL        | RL-T120 | 133.81  | 6.60E+00 |        |   | 7.22E-02 |        | 3.62E+00 | 4.50E+01 | 1.00E+01 |
| RL     RL-T125     15.18     1.07E+02     1.59E-03     1.11E+02     3.33E+02     1.72E+02       RL     RL-T127     283.60     3.23E+02     9.06E-01     2.79E+01     9.95E+02     2.23E+02       RL     RL-T128     0.42     7.08E-01     2.14E-02     6.78E-07     2.42E-05     5.41E-06       RL     RL-T129     28.75     7.51E-02     1.29E+02     1.37E+01     3.05E+00   | RL        | RL-T122 | 29.30   |          |        |   | 8.98E+00 |        | 1.53E-01 | 5.42E+00 | 1.22E+00 |
| RL     RL-T127     283.60     3.23E+02     9.06E-01     2.79E+01     9.95E+02     2.23E+02       RL     RL-T128     0.42     7.08E-01     2.14E-02     6.78E-07     2.42E-05     5.41E-06       RL     RL-T129     28.75     7.51E-02     1.29E+02     1.37E+01     3.05E+00   | RL        | RL-T123 | 0.62    |          |        |   |          |        | 4.48E-01 | 1.59E+01 | 3.58E+00 |
| RL     RL-T128     0.42     7.08E-01     2.14E-02     6.78E-07     2.42E-05     5.41E-06       RL     RL-T129     28.75     7.51E-02     1.29E+02     1.37E+01     3.05E+00  | RL        | RL-T125 | 15.18   | 1.07E+02 |        |   | 1.59E-03 |        | 1.11E+02 | 3.33E+02 | 1.72E+02 |
| RL RL-T129 28.75 7.51E-02 1.29E+02 1.37E+01 3.05E+00   | RL        | RL-T127 | 283.60  | 3.23E+02 |        |   | 9.06E-01 |        | 2.79E+01 | 9.95E+02 | 2.23E+02 |
|  | RL        | RL-T128 | 0.42    | 7.08E-01 |        |   | 2.14E-02 |        | 6.78E-07 | 2.42E-05 | 5.41E-06 |
| RL RL-T130 0.21 8.35E-02 8.15E-04 2.91E-02 6.51E-03  | RL        | RL-T129 | 28.75   |          |        |   | 7.51E-02 |        | 1.29E+02 | 1.37E+01 | 3.05E+00 |
|  | RL        | RL-T130 | 0.21    |          |        |   | 8.35E-02 |        | 8.15E-04 | 2.91E-02 | 6.51E-03 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID            | Volume                                  | Am-241               | Am-243    | Cm-244     | Cs-137   | Np-237  | Pu-238   | Pu-239               | Pu-240               |
|-----------|--------------------|---|----------------------|-----------|------------|----------|---------|----------|----------------------|----------------------|
| RL        | RL-T131            | 30.16                                   |                      | 7411 2 10 | OIII Z I I | 8.14E-04 | 110 201 | 4.45E-01 | 5.54E+00             | 1.23E+00             |
| RL        | RL-T132            | 28.70                                   |                      |           |            | 1.24E-01 |         | 7.86E+01 | 2.81E+03             |                      |
| RL        | RL-T133            | 0.21                                    | 2.71E-03             |           |            | 9.92E-05 |         | 1.26E-03 | 4.61E-02             | 1.03E-02             |
| RL        | RL-T134            | 0.21                                    |                      |           |            | 7.72E-01 |         | 3.39E-03 | 1.21E-01             | 2.70E-02             |
| RL        | RL-T135            | 0.42                                    |                      |           |            | 9.63E-05 |         | 1.59E-02 | 5.66E-01             | 1.27E-01             |
| RL        | RL-T137            |   | 6.30E+02             |           |            | 7.91E-01 |         |          | 4.31E+03             |                      |
| RL        | RL-T140            |   | 9.93E+02             |           |            | 7.20E-01 |         | 3.30E+02 |                      |                      |
| RL        | RL-T143            | 403.71                                  | 0.002.02             |           |            | 1.11E-01 |         |          | 6.74E+01             |                      |
| RL        | RL-T145            | 711.19                                  |                      |           |            | 1.28E+00 |         |          | 1.92E+02             |                      |
| RL        | RL-W407            |   | 2.88E+01             |           |            | 1.202100 |         |          | 3.14E+02             |                      |
| RL        | RL-W408            |   | 1.18E-04             |           |            |          |         | 4.86E-05 | 1.78E-03             | 3.99E-04             |
| RL        | RL-W415            |   | 1.87E-03             |           |            |          |         | 7.66E-04 | 2.81E-02             | 6.29E-03             |
| RL        | RL-W418            |   | 9.95E-03             |           |            |          |         | 3.21E-03 | 1.21E-01             | 2.70E-02             |
| RL        | RL-W438            | 3.79                                    |                      |           |            |          |         | 4.84E-05 | 1.77E-03             | 3.97E-04             |
| RL        | RL-W444            | 744.95                                  |                      |           |            |          |         | 1.76E+01 | 6.71E+02             | 1.50E+02             |
| RL        | RL-W447            | 9.87                                    |                      |           |            |          |         | 2.91E-03 | 1.06E-01             | 2.39E-02             |
| RL        | RL-W448            |   | 5.24E-05             |           |            |          |         | 2.15E-05 | 7.87E-04             | 1.76E-04             |
| RL        | RL-W449            |   | 1.28E+00             |           |            |          |         | 7.87E-04 | 2.25E-02             | 5.04E-03             |
| RL        | RL-W450            |   | 7.91E-04             |           |            |          |         | 3.24E-04 | 1.19E-02             | 2.66E-03             |
| RL        | RL-W451            | 0.42                                    |                      |           |            |          |         | 4.62E-05 | 1.69E-03             | 3.79E-04             |
| RL        | RL-W452            |   | 6.14E-03             |           |            |          |         | 1.99E-03 | 7.45E-02             | 1.67E-02             |
| RL        | RL-W453            |   | 1.96E-03             |           |            |          |         | 5.60E-04 | 2.14E-02             | 4.78E-03             |
| RL        | RL-W454            | 0.21                                    |                      |           |            |          |         | 7.83E-03 | 2.14L-02<br>2.99E-01 | 6.69E-02             |
| RL        | RL-W455            | 0.21                                    |                      |           |            |          |         | 2.11E-03 | 7.91E-02             | 1.77E-02             |
| RL        | RL-W456            |   | 9.36E-01             |           |            |          |         | 2.76E-01 | 1.05E+01             | 2.35E+00             |
| RL        | RL-W457            | 0.63                                    |                      |           |            |          |         | 2.68E-02 | 1.03E+01<br>1.02E+00 | 2.33E+00<br>2.28E-01 |
| RL        | RL-W458            | 0.63                                    |                      |           |            | 1.03E-04 |         | 1.37E-01 | 4.19E-01             | 2.34E-01             |
| RL        | RL-W459            | 6.12                                    |                      |           |            | 5.13E-03 |         | 1.41E+00 | 1.04E+01             | 3.19E+00             |
| RL        | RL-W460            | 0.12                                    |                      |           |            | 5.13L-03 |         | 4.96E-03 | 1.89E-01             | 4.24E-02             |
| RL        | RL-W461            | 0.42                                    |                      |           |            |          |         | 4.90⊑-03 | 1.09E-01             | 4.246-02             |
| RL        | RL-W462            | 0.42                                    |                      |           |            |          |         | 1.44E-03 | 5.35E-02             | 1.20E-02             |
| RL        | RL-W463            | 0.42                                    |                      |           |            |          |         | 7.28E-03 | 2.78E-01             | 6.22E-02             |
| RL        | RL-W464            |   | 1.18E-02             |           |            |          |         | 3.35E-03 | 1.28E-01             | 2.86E-02             |
| RL        | RL-W465            |   | 7.12E-02             |           |            |          |         | 2.27E-02 |                      | 1.91E-01             |
|           | RL-W466            |   | 1.01E+00             |           |            |          |         |          |                      | 2.62E+00             |
| RL        | RL-W467            |   | 4.72E-02             |           |            |          |         |          | 5.96E-01             | 1.33E-01             |
| RL        | RL-W468            |   | 2.35E-04             |           |            |          |         | 8.19E-05 | 3.05E-03             | 6.83E-04             |
| RL        | RL-W469            |   | 1.09E-01             |           |            |          |         |          | 1.24E+00             |                      |
|           |                    |   |                      |           |            | 2 205 05 |         |          |                      |                      |
| RL<br>RL  | RL-W470<br>RL-W474 |   | 1.48E+00<br>2.61E-01 |           |            | 2.20E-05 |         | 1.69E-01 | 4.60E+00<br>1.05E-02 | 9.00E-03             |
|           |                    |   |                      |           |            | 9 00E 02 |         | 6.08E-01 |                      |                      |
| RL        | RL-W476<br>RL-W480 |   | 1.96E-01             |           |            | 8.90E-02 |         |          | 2.30E+00             |                      |
| RL        |                    |   | 3.01E-02             |           |            |          |         | 9.74E-03 | 3.65E-01             | 8.19E-02             |
| RL        | RL-W481            |   | 4.73E-02             |           |            |          |         | 1.53E-02 | 5.73E-01             | 1.28E-01             |
| RL        | RL-W482            |   | 6.29E+01             |           |            |          |         | 5.09E+00 | 7.29E-02             | 1.36E-01             |
| RL        | RL-W483            |   | 4.70E+00             |           |            | E 40E 04 |         | 3.95E-01 | 4.72E-03             | 9.66E-03             |
| RL        | RL-W484            |   | 4.19E-02             |           |            | 5.49E-01 |         | 3.18E-03 | 6.59E-02             | 1.58E-02             |
| RL        | RL-W485            | ł — — — — — — — — — — — — — — — — — — — | 2.77E-03             |           |            |          |         | 4.50E-04 | 7.13E-03             | 1.71E-03             |
| RL        | RL-W486            |   | 1.17E-03             |           |            |          |         | 1.90E-04 | 3.01E-03             | 7.19E-04             |
| RL        | RL-W487            | 0.21                                    | 1.41E-01             |           |            | 4.445.00 |         | 2.44E-02 | 4.31E-01             | 1.19E-01             |
| RL        | RL-W488            | 0.21                                    |                      |           |            | 1.44E-03 |         |          |                      |                      |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID | Volume  | Am-241   | Am-243 | Cm-244 | Cs-137   | Np-237 | Pu-238   | Pu-239   | Pu-240   |
|-----------|---------|---------|----------|--------|--------|----------|--------|----------|----------|----------|
| RL        | RL-W489 | 0.21    | 3.55E-02 |        |        | 1.20E-03 |        | 2.30E-02 | 5.58E-01 | 1.27E-01 |
| RL        | RL-W490 | 1.90    |          |        |        | 7.19E-05 |        |          |          |          |
| RL        | RL-W491 | 0.21    | 1.38E-02 |        |        | 1.00E-03 |        | 1.94E-02 | 5.85E-02 | 1.29E-02 |
| RL        | RL-W492 | 0.21    | 8.01E-04 |        |        | 1.00E-04 |        | 4.78E-04 | 1.17E-02 | 2.65E-03 |
| RL        | RL-W493 | 0.21    |          |        |        | 1.44E-03 |        |          |          |          |
| RL        | RL-W494 | 77.49   | 3.10E+01 |        |        |          |        | 2.77E+01 | 2.95E-01 | 2.53E-01 |
| RL        | RL-W495 | 0.42    | 5.53E-01 |        |        |          |        | 7.53E-02 | 2.83E-03 | 2.26E-03 |
| RL        | RL-W496 | 0.21    | 3.62E+00 |        |        |          |        | 8.67E-01 | 9.30E-03 | 7.49E-03 |
| RL        | RL-W497 | 0.21    | 2.74E-01 |        |        |          |        | 1.71E-01 | 5.58E-01 | 2.54E-01 |
| RL        | RL-W498 | 508.95  | 5.61E-01 |        |        |          |        | 1.81E-01 | 6.80E+00 | 1.52E+00 |
| RL        | RL-W499 | 0.21    | 7.06E-06 |        |        |          |        | 2.28E-06 | 8.55E-05 | 1.92E-05 |
| RL        | RL-W500 | 0.21    | 5.11E-04 |        |        |          |        | 2.83E-04 | 3.49E-03 | 7.78E-04 |
| RL        | RL-W501 | 38.91   | 2.62E+01 |        |        |          |        | 4.51E+00 | 7.98E+01 | 2.20E+01 |
| RL        | RL-W502 | 3.15    | 3.76E-03 |        |        |          |        | 1.22E-03 | 4.56E-02 | 1.02E-02 |
| RL        | RL-W503 | 0.42    | 2.12E-01 |        |        | 1.22E-03 |        | 1.25E-01 | 1.61E+00 | 3.58E-01 |
| RL        | RL-W504 | 0.21    | 1.41E-01 |        |        |          |        | 2.44E-02 | 4.31E-01 | 1.19E-01 |
| RL        | RL-W505 | 0.21    | 2.73E-03 |        |        | 1.00E-04 |        | 1.28E-03 | 4.66E-02 | 1.04E-02 |
| RL        | RL-W506 | 0.63    | 1.38E-03 |        |        |          |        | 5.03E-04 | 1.53E-02 | 3.43E-03 |
| RL        | RL-W507 | 0.63    | 1.36E-04 |        |        |          |        | 4.40E-05 | 1.65E-03 | 3.69E-04 |
| RL        | RL-W508 | 0.63    | 2.62E+00 |        |        | 3.29E-03 |        | 1.44E+00 | 1.79E+01 | 3.99E+00 |
| RL        | RL-W509 | 4.83    | 3.47E+01 |        |        | 2.52E-02 |        | 1.15E+01 | 1.46E+02 | 3.59E+01 |
| RL        | RL-W510 | 3.36    | 2.10E+00 |        |        |          |        | 1.18E+00 | 1.45E+01 | 3.23E+00 |
| RL        | RL-W511 | 52.92   | 3.48E+02 |        |        |          |        | 5.69E+01 | 1.94E+03 | 4.26E+02 |
| RL        | RL-W512 | 31.29   | 3.61E+02 |        |        |          |        | 3.84E+01 | 1.17E+03 | 2.92E+02 |
| RL        | RL-W513 | 6266.68 | 2.45E+04 |        |        |          |        | 1.11E+04 | 1.36E+04 | 6.79E+03 |
| RL        | RL-W514 | 0.42    | 5.91E-04 |        |        |          |        | 1.79E-04 | 6.77E-03 | 1.52E-03 |
| RL        | RL-W515 | 8.02    | 2.18E-02 |        |        |          |        | 7.02E-03 | 2.64E-01 | 5.90E-02 |
| RL        | RL-W516 | 26.60   | 3.02E-02 |        |        |          |        | 9.75E-03 | 3.65E-01 | 8.19E-02 |
| RL        | RL-W517 | 0.21    | 2.51E-10 |        |        |          |        | 8.72E-11 | 3.25E-09 | 7.27E-10 |
| RL        | RL-W518 | 0.84    | 9.74E-01 |        |        |          |        | 3.67E-01 | 4.66E+00 | 1.13E+00 |
| RL        | RL-W519 | 1.68    | 1.46E-01 |        |        |          |        | 4.35E-02 | 1.65E+00 | 3.69E-01 |
| RL        | RL-W520 | 0.42    | 1.30E-02 |        |        |          |        | 4.90E-03 | 1.81E-01 | 4.05E-02 |
| RL        | RL-W521 | 0.21    | 2.78E-04 |        |        |          |        | 8.99E-05 | 3.37E-03 | 7.56E-04 |
| RL        | RL-W522 | 2.31    | 8.29E+00 |        |        |          |        | 3.34E+00 | 2.23E+01 | 6.41E+00 |
| RL        | RL-W523 | 0.21    | 3.06E+00 |        |        |          |        | 1.27E+00 | 1.48E+00 | 9.03E-01 |
| RL        | RL-W524 | 2.73    | 1.20E+01 |        |        |          |        | 4.86E+00 | 1.36E+01 | 5.29E+00 |
| RL        | RL-W525 | 0.63    | 9.59E-01 |        |        |          |        |          | 1.61E+00 |          |
| RL        | RL-W526 |         | 2.19E+00 |        |        | 2.71E-03 |        |          | 1.72E+01 |          |
| RL        | RL-W527 |         | 2.18E-01 |        |        |          |        |          | 1.82E+00 |          |
| RL        | RL-W528 |         | 2.01E+02 |        |        |          |        |          | 5.80E+01 |          |
| RL        | RL-W529 |         | 9.37E-02 |        |        | 1.03E-03 |        |          | 6.40E-01 |          |
| RL        | RL-W530 |         | 1.06E+00 |        |        |          |        |          | 7.31E+00 |          |
| RL        | RL-W531 |         | 1.11E+02 |        |        |          |        |          | 3.16E+01 |          |
| RL        | RL-W532 |         | 2.01E-01 |        |        |          |        |          | 2.44E+00 |          |
| RL        | RL-W533 |         | 1.03E-01 |        |        | 1.03E-04 |        | 5.61E-02 | 6.98E-01 |          |
| RL        | RL-W534 |         | 5.62E-06 |        |        |          |        | 1.81E-06 | 6.81E-05 |          |
| RL        | RL-W535 |         | 4.64E+01 |        |        |          |        | 1.79E+01 | 8.73E+01 |          |
| RL        | RL-W536 |         | 8.30E-01 |        |        |          |        | 2.41E-01 | 3.03E+00 |          |
| RL        | RL-W537 |         | 3.16E+01 |        |        |          |        | 5.44E+00 | 1.86E+02 |          |
| RL        | RL-W538 | 1.68    | 7.13E-05 |        |        |          |        | 2.30E-05 | 8.65E-04 | 1.94E-04 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID | Volume | Am-241   | Am-243 | Cm-244 | Cs-137   | Np-237 | Pu-238   | Pu-239      | Pu-240   |
|-----------|---------|--------|----------|--------|--------|----------|--------|----------|-------------|----------|
| RL        | RL-W539 | 0.42   | 6.87E-03 |        |        |          |        | 2.59E-03 | 9.56E-02    | 2.14E-02 |
| RL        | RL-W540 | 30.87  | 2.52E+01 |        |        |          |        | 1.14E+01 | 3.44E+01    | 1.19E+01 |
| RL        | RL-W541 | 0.63   | 2.08E-02 |        |        |          |        | 7.47E-03 | 2.77E-01    | 6.20E-02 |
| RL        | RL-W542 | 3.99   | 1.15E+00 |        |        |          |        | 5.55E-01 | 7.01E+00    | 1.63E+00 |
| RL        | RL-W543 | 4.01   | 3.33E-03 |        |        |          |        | 1.08E-03 | 4.06E-02    | 9.10E-03 |
| RL        | RL-W544 | 0.21   | 8.74E-02 |        |        |          |        | 4.41E-02 | 4.62E-01    | 1.16E-01 |
| RL        | RL-W545 | 3.80   | 2.01E-02 |        |        |          |        | 6.48E-03 | 2.43E-01    | 5.45E-02 |
| RL        | RL-W546 | 0.84   | 8.79E-04 |        |        |          |        | 2.84E-04 | 1.07E-02    | 2.39E-03 |
| RL        | RL-W547 | 56.14  | 2.25E-05 |        |        |          |        | 7.26E-06 | 2.72E-04    | 6.10E-05 |
| RL        | RL-W548 | 0.42   | 1.85E-05 |        |        |          |        | 6.30E-06 | 2.35E-04    |          |
| RL        | RL-W549 | 4.00   | 5.68E+00 |        |        |          |        | 2.53E+00 | 1.21E+01    | 3.62E+00 |
| RL        | RL-W550 | 4.41   | 2.84E+01 |        |        |          |        | 4.79E+00 | 1.64E+02    | 3.62E+01 |
| RL        | RL-W551 | 15.58  | 6.00E+01 |        |        |          |        | 7.08E+00 | 1.85E+02    | 4.72E+01 |
| RL        | RL-W552 | 0.84   | 1.11E-02 |        |        |          |        | 3.92E-03 | 1.46E-01    | 3.26E-02 |
| RL        | RL-W553 | 0.42   | 3.21E-04 |        |        | 1.12E-01 |        | 3.70E-04 | 1.30E-02    | 2.91E-03 |
| RL        | RL-W554 | 9.50   | 1.70E-02 |        |        |          |        | 5.49E-03 | 2.06E-01    | 4.62E-02 |
| RL        | RL-W555 | 12.03  | 7.82E-03 |        |        |          |        | 2.53E-03 | 9.49E-02    | 2.12E-02 |
| RL        | RL-W563 | 0.21   | 1.20E-01 |        |        |          |        | 6.33E-02 | 7.87E-01    | 1.75E-01 |
| RL        | RL-W564 | 1.26   | 6.07E-02 |        |        |          |        | 4.20E-02 | 5.09E-01    | 1.13E-01 |
| RL        | RL-W565 | 0.21   | 6.78E-03 |        |        |          |        | 2.36E-03 | 8.79E-02    | 1.97E-02 |
| RL        | RL-W566 | 2.31   | 1.04E-01 |        |        |          |        | 3.46E-02 | 1.29E+00    | 2.90E-01 |
| RL        | RL-W567 | 0.21   | 4.91E+00 |        |        |          |        | 8.84E-01 | 3.97E-02    | 3.22E-02 |
| RL        | RL-W568 | 3.74   | 7.64E+01 |        |        |          |        | 1.86E+01 | 1.88E+00    | 1.50E+00 |
| RL        | RL-W569 | 2.10   | 7.74E-02 |        |        |          |        | 1.40E-02 | 6.27E-04    | 5.10E-05 |
| RL        | RL-W570 | 0.42   | 7.95E-03 |        |        | 8.90E-03 |        | 2.45E-03 | 9.32E-02    | 2.08E-02 |
| RL        | RL-W571 | 12.48  | 1.72E+01 |        |        |          |        | 8.32E+00 | 7.56E+00    | 3.80E+00 |
| RL        | RL-W572 | 2.29   | 1.38E-02 |        |        |          |        | 2.49E-03 | 4.07E-03    | 9.10E-05 |
| RL        | RL-W573 | 14.98  | 1.84E+02 |        |        |          |        | 3.19E+01 | 2.23E+00    | 1.68E+00 |
| RL        | RL-W574 | 81.89  | 7.62E+02 |        |        |          |        | 1.38E+02 | 8.52E+00    | 6.22E+00 |
| RL        | RL-W575 | 284.11 | 5.45E+03 |        |        |          |        | 9.29E+02 | 8.15E+01    | 4.97E+01 |
| RL        | RL-W576 | 41.07  | 3.56E+02 |        |        |          |        | 6.49E+01 | 4.15E+00    |          |
| RL        | RL-W579 | 0.42   | 1.06E-01 |        |        |          |        | 1.71E-03 | 2.08E-02    | 4.67E-03 |
| RL        | RL-W580 | 2.11   |          |        |        | 3.01E-04 |        |          | 1.66E-01    | 2.72E-02 |
| RL        | RL-W581 |        | 1.16E+00 |        |        |          |        |          |             |          |
|           | RL-W582 |        | 7.05E-03 |        |        | 1.03E-03 |        |          | 5.32E-03    |          |
| RL        | RL-W583 |        | 2.76E-03 |        |        |          |        |          | 3.00E-02    |          |
| RL        | RL-W584 |        | 1.01E-01 |        |        | 2.05E-04 |        | 5.17E-02 | 1.75E-01    | 8.62E-02 |
| RL        | RL-W585 |        | 2.18E-01 |        |        | 3.24E-06 |        |          | 1.02E+00    |          |
| RL        | RL-W586 |        | 4.36E-05 |        |        |          |        |          | 4.74E-04    |          |
| RL        | RL-W587 |        | 8.83E-04 |        |        | 0.0== -  |        | 2.68E-04 | 1.01E-02    | 2.27E-03 |
| RL        | RL-W588 |        | 6.86E-02 |        |        | 2.05E-04 |        | 4.36E-02 | 1.48E-01    | 7.26E-02 |
| RL        | RL-W589 | 0.21   |          |        |        | 2.96E-05 |        | 0.00= 0: | 4 4 4 5 6 5 | 0.04= 05 |
| RL        | RL-W590 |        | 7.86E-01 |        |        |          |        | 9.30E-01 |             |          |
| RL        | RL-W591 |        | 3.89E+00 |        |        |          |        |          | 1.41E-02    |          |
| RL        | RL-W592 |        | 2.11E+01 |        |        |          |        | 1.15E+01 | 6.54E-01    | 8.54E-01 |
| RL        | RL-W593 | 0.62   |          |        |        |          |        | 0.075.00 | 2.36E-02    | 4.01E-02 |
| RL        | RL-W594 |        | 4.64E+01 |        |        |          |        | 2.07E+00 |             |          |
| RL        | RL-W595 |        | 4.62E-02 |        |        |          |        | 2.16E-01 | 2.00E-02    | 3.94E-02 |
| RL        | RL-W596 |        | 1.74E-02 |        |        |          |        | 1.68E-02 | 2.06E-04    | 3.70E-04 |
| RL        | RL-W597 | 3.12   | 3.12E+01 |        |        |          |        | 7.39E+00 | 3.99E-01    | 6.71E-01 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID | Volume | Am-241   | Am-243 | Cm-244 | Cs-137   | Np-237 | Pu-238   | Pu-239   | Pu-240   |
|-----------|---------|--------|----------|--------|--------|----------|--------|----------|----------|----------|
| RL        | RL-W598 |        | 3.43E+01 | -      | -      |          |        | 4.36E+01 | 5.56E-01 | 8.37E-01 |
| RL        | RL-W599 | 0.21   | 1.31E+00 |        |        |          |        | 3.52E-01 | 4.70E-03 | 8.82E-03 |
| RL        | RL-W600 | 0.74   | 1.09E-07 |        |        |          |        | 3.11E-08 | 1.19E-06 | 2.66E-07 |
| RL        | RL-W601 | 1.05   | 1.40E-04 |        |        | 9.37E-05 |        | 1.61E-04 | 5.66E-03 | 1.27E-03 |
| RL        | RL-W602 | 2.53   | 4.28E-01 |        |        |          |        | 1.49E-01 | 5.54E+00 | 1.24E+00 |
| RL        | RL-W603 | 7.60   | 2.72E+00 |        |        |          |        | 9.46E-01 | 3.52E+01 | 7.89E+00 |
| RL        | RL-W604 | 0.21   | 1.12E-02 |        |        | 3.57E-02 |        | 2.48E-03 | 1.71E-02 | 8.50E-03 |
| RL        | RL-W605 | 0.21   | 4.68E-04 |        |        | 7.54E-04 |        | 5.39E-04 | 1.89E-02 | 4.24E-03 |
| RL        | RL-W606 | 0.21   | 1.89E-04 |        |        | 3.67E-03 |        | 2.17E-04 | 7.62E-03 | 1.71E-03 |
| RL        | RL-W607 | 0.21   | 1.90E-03 |        |        | 3.14E-02 |        | 4.20E-04 | 2.89E-03 | 1.44E-03 |
| RL        | RL-W608 | 6.12   | 1.98E-02 |        |        | 1.30E+00 |        | 1.63E-02 | 3.76E-03 | 4.67E-03 |
| RL        | RL-W610 | 3.80   | 3.05E+00 |        |        |          |        | 8.72E-01 | 3.32E+01 | 7.44E+00 |
| RL        | RL-W612 | 7.11   | 5.16E-03 |        |        | 9.24E-02 |        | 1.51E-03 | 5.80E-02 | 1.30E-02 |
| RL        | RL-W615 | 1.89   |          |        |        |          |        |          | 3.38E-01 |          |
| RL        | RL-W622 | 1.89   | 1.20E-04 |        |        |          |        | 3.44E-05 | 1.31E-03 | 2.93E-04 |
| RL        | RL-W625 | 0.21   | 1.56E-03 |        |        |          |        | 5.23E-03 | 6.69E-03 | 6.62E-03 |
| RL        | RL-W626 | 0.21   | 3.50E-01 |        |        |          |        | 1.19E-01 | 2.62E-01 | 1.58E-01 |
| RL        | RL-W627 | 0.21   | 7.30E-04 |        |        | 9.46E-04 |        | 1.59E-04 | 1.24E-06 |          |
| RL        | RL-W628 | 0.21   | 3.29E-04 |        |        |          |        | 9.99E-05 | 3.78E-03 | 8.46E-04 |
| RL        | RL-W629 | 0.21   | 1.82E-05 |        |        |          |        | 6.87E-06 | 2.54E-04 | 5.68E-05 |
| RL        | RL-W630 | 0.42   | 2.06E-01 |        |        |          |        | 1.28E-01 | 2.94E+00 | 6.85E-01 |
| RL        | RL-W631 | 0.42   | 1.12E-03 |        |        | 2.25E-08 |        | 1.29E-03 | 4.51E-02 | 1.01E-02 |
| RL        | RL-W632 | 0.21   | 1.34E+00 |        |        | 2.20E-03 |        | 1.74E-01 | 5.96E+00 | 1.97E+00 |
| RL        | RL-W633 | 0.21   | 6.17E-03 |        |        |          |        | 1.01E-03 | 9.36E-04 | 8.32E-04 |
| RL        | RL-W634 | 0.21   |          |        |        |          |        |          | 1.02E-02 |          |
| RL        | RL-W635 | 15.39  | 2.38E+01 |        |        | 8.70E-01 |        | 3.41E+01 | 4.34E+00 | 6.53E+00 |
| RL        | RL-W636 | 1.05   | 3.75E-01 |        |        | 9.31E-02 |        | 6.44E-02 | 5.67E-02 | 5.05E-02 |
| RL        | RL-W637 | 0.63   | 6.55E-04 |        |        | 1.98E-02 |        | 1.64E-03 | 6.38E-04 | 6.30E-04 |
| RL        | RL-W638 | 4.01   | 3.35E-02 |        |        | 3.60E-01 |        | 1.67E-02 | 6.25E-03 | 5.92E-03 |
| RL        | RL-W639 | 0.63   | 1.32E-03 |        |        |          |        | 4.27E-04 | 1.60E-02 | 3.58E-03 |
| RL        | RL-W640 | 0.21   | 4.70E-02 |        |        |          |        | 1.42E-02 | 5.39E-01 | 1.21E-01 |
| RL        | RL-W641 | 5.46   | 2.28E+00 |        |        | 5.35E-01 |        | 3.12E+00 | 2.59E+00 | 1.07E+00 |
| RL        | RL-W642 | 1.68   | 6.25E-02 |        |        | 1.07E+00 |        | 3.24E-04 | 3.16E-02 | 1.62E-04 |
| RL        | RL-W643 | 1.68   | 7.02E-01 |        |        | 1.65E-01 |        | 9.61E-01 | 7.98E-01 | 3.30E-01 |
| RL        | RL-W644 | 0.84   |          |        |        | 5.34E-01 |        |          | 5.49E-02 |          |
| RL        | RL-W645 | 1.47   | 8.26E-03 |        |        |          |        | 4.32E-03 | 1.08E-01 | 2.55E-02 |
| RL        | RL-W646 | 0.42   | 1.42E-02 |        |        | 3.75E-02 |        | 3.86E-03 | 2.58E-02 | 1.26E-02 |
| RL        | RL-W647 | 0.21   | 3.59E-02 |        |        |          |        | 5.77E-01 | 1.10E-01 | 1.75E-02 |
| RL        | RL-W648 | 0.21   | 2.68E-04 |        |        | 2.26E-02 |        | 9.86E-04 | 6.01E-05 | 1.19E-04 |
| RL        | RL-W649 | 1.90   | 9.87E-04 |        |        | 8.30E-02 |        | 3.63E-03 | 2.21E-04 | 4.37E-04 |
| RL        | RL-W653 | 0.42   | 7.45E-05 |        |        |          |        | 2.60E-05 | 9.66E-04 | 2.16E-04 |
| RL        | RL-W654 | 0.21   | 4.39E-04 |        |        |          |        | 1.42E-04 | 5.32E-03 | 1.19E-03 |
| RL        | RL-W655 | 1.46   | 9.55E+01 |        |        |          |        | 3.36E+01 | 2.11E-01 | 5.01E-01 |
| RL        | RL-W656 | 3.12   | 3.06E+02 |        |        |          |        | 1.51E+01 | 4.96E-01 | 5.15E-01 |
| RL        | RL-W657 | 14.86  | 2.09E+02 |        |        |          |        | 2.23E+01 | 2.44E-01 | 4.90E-01 |
| RL        | RL-W659 |        | 2.80E+01 |        |        |          |        | 5.03E+00 | 4.70E-02 |          |
| RL        | RL-W660 |        | 1.45E+02 |        |        |          |        | 6.05E+01 | 8.67E-01 |          |
| RL        | RL-W661 |        | 1.19E+00 |        |        |          |        | 7.57E-02 |          |          |
| RL        | RL-W662 |        | 6.68E-02 |        |        |          |        | 4.51E-03 | 1.07E-04 |          |
| RL        | RL-W665 | 8.53   | 4.05E+02 |        |        |          |        | 3.61E+02 | 1.31E+00 | 1.77E+00 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID | Volume | Am-241   | Am-243 | Cm-244 | Cs-137   | Np-237 | Pu-238   | Pu-239   | Pu-240   |
|-----------|---------|--------|----------|--------|--------|----------|--------|----------|----------|----------|
| RL        | RL-W666 |        | 1.10E+01 |        | •=     | 00 101   | p ==.  | 8.84E-01 | 5.49E-02 | 5.82E-02 |
| RL        | RL-W668 | 30.49  | 1.79E+00 |        |        | 3.57E+00 |        | 1.98E-02 | 1.03E-01 | 2.96E-02 |
| RL        | RL-W669 | 1.26   | 5.26E-01 |        |        | 1.24E-01 |        | 7.21E-01 | 5.98E-01 | 2.47E-01 |
| RL        | RL-W670 | 0.21   | 4.63E-02 |        |        | 9.17E-02 |        | 5.13E-04 | 2.68E-03 | 7.66E-04 |
| RL        | RL-W671 | 9.45   | 5.40E+00 |        |        |          |        | 2.63E-01 | 4.91E-03 | 5.14E-03 |
| RL        | RL-W672 |        | 3.67E+01 |        |        |          |        | 1.79E+00 | 3.35E-02 | 3.49E-02 |
| RL        | RL-W673 | 49.14  | 3.54E+01 |        |        | 1.84E+01 |        | 1.72E+00 | 3.24E-02 | 3.37E-02 |
| RL        | RL-W674 | 25.02  | 4.88E-02 |        |        |          |        | 5.77E-02 | 8.37E+00 | 7.35E-02 |
| RL        | RL-W675 | 0.21   | 3.78E-01 |        |        | 2.02E+02 |        | 4.25E-01 | 1.31E-01 | 1.14E-01 |
| RL        | RL-W676 | 4.41   | 1.67E-02 |        |        | 8.48E-02 |        | 2.55E-03 | 1.47E-01 | 2.15E-03 |
| RL        | RL-W677 | 3.15   | 3.80E+01 |        |        | 4.60E+00 |        | 6.32E+00 | 5.74E+00 | 5.02E+00 |
| RL        | RL-W678 | 0.42   | 3.60E-02 |        |        | 5.66E-01 |        | 5.28E-02 | 5.16E-02 | 4.58E-02 |
| RL        | RL-W679 | 3.80   | 7.49E-01 |        |        | 1.24E-03 |        | 1.18E-01 | 1.11E-01 | 9.86E-02 |
| RL        | RL-W680 | 0.21   | 9.48E-05 |        |        | 4.57E-03 |        | 1.66E-04 | 1.74E-05 | 3.15E-05 |
| RL        | RL-W681 | 0.21   | 2.35E-05 |        |        | 3.04E-04 |        | 6.73E-05 | 4.67E-04 | 2.34E-04 |
| RL        | RL-W685 | 102.64 | 1.50E-01 |        |        |          |        | 4.29E-02 | 1.64E+00 | 3.66E-01 |
| RL        | RL-W689 | 0.21   | 1.13E-02 |        |        | 3.68E-02 |        | 7.18E-04 | 3.87E-04 |          |
| RL        | RL-W690 | 0.42   | 1.82E-01 |        |        | 1.75E-02 |        | 5.28E-02 | 2.03E+00 | 4.53E-01 |
| RL        | RL-W691 | 0.21   | 4.22E-03 |        |        | 8.74E-03 |        | 1.23E-03 | 4.70E-02 | 1.05E-02 |
| RL        | RL-W692 | 0.42   | 1.67E-01 |        |        | 1.75E-02 |        | 4.87E-02 | 1.86E+00 | 4.16E-01 |
| RL        | RL-W693 | 0.62   | 2.07E-01 |        |        | 2.62E-02 |        | 6.01E-02 | 2.30E+00 | 5.15E-01 |
| RL        | RL-W694 | 2.29   | 2.17E+00 |        |        | 9.61E-02 |        | 6.31E-01 | 2.43E+01 | 5.40E+00 |
| RL        | RL-W695 | 0.84   | 3.82E-03 |        |        |          |        |          | 2.39E-03 |          |
| RL        | RL-W696 | 0.21   | 1.62E-03 |        |        |          |        | 2.30E-03 | 2.91E-03 | 2.89E-03 |
| RL        | RL-W697 | 0.21   | 1.15E+00 |        |        |          |        | 4.87E+00 | 6.93E-03 | 9.57E-04 |
| RL        | RL-W698 | 0.21   | 9.97E-02 |        |        | 9.66E-02 |        |          | 3.29E-05 |          |
| RL        | RL-W699 | 0.42   | 8.07E-03 |        |        |          |        | 3.24E-04 | 2.20E-03 | 2.60E-04 |
| RL        | RL-W700 | 1.26   | 2.63E-03 |        |        |          |        | 8.50E-04 | 3.19E-02 | 7.15E-03 |
| RL        | RL-W702 | 0.21   |          |        |        |          |        |          |          |          |
| RL        | RL-W703 | 0.21   |          |        |        | 8.92E-03 |        |          |          |          |
| RL        | RL-W704 | 0.42   | 1.75E-01 |        |        | 4.12E-02 |        | 2.40E-01 | 1.99E-01 | 8.25E-02 |
| RL        | RL-W705 | 0.62   | 7.11E-04 |        |        | 2.32E-03 |        | 2.21E-04 | 8.36E-03 | 1.88E-03 |
| RL        | RL-W706 | 0.21   |          |        |        | 6.43E-02 |        |          |          |          |
| RL        | RL-W707 | 1.87   | 2.55E-02 |        |        | 3.39E-04 |        | 7.86E-03 | 2.98E-01 | 6.68E-02 |
| RL        | RL-W708 | 0.62   | 3.84E-03 |        |        | 5.36E-05 |        | 1.19E-03 | 4.52E-02 | 1.01E-02 |
| RL        | RL-W709 | 0.21   | 1.33E+00 |        |        | 8.92E-04 |        | 4.10E-01 | 1.56E+01 | 3.49E+00 |
| RL        | RL-W710 | 0.21   | 7.92E-05 |        |        | 1.79E-05 |        | 2.45E-05 | 9.32E-04 | 2.08E-04 |
| RL        | RL-W711 | 0.21   | 2.48E-02 |        |        | 8.92E-05 |        | 7.65E-03 | 2.91E-01 | 6.51E-02 |
| RL        | RL-W712 | 0.21   | 3.20E-02 |        |        | 2.14E-04 |        | 9.90E-03 | 3.76E-01 | 8.42E-02 |
| RL        | RL-W713 | 0.21   | 2.77E-02 |        |        | 8.92E-04 |        | 8.55E-03 | 3.24E-01 | 7.28E-02 |
| RL        | RL-W714 | 0.21   |          |        |        |          |        |          |          |          |
| RL        | RL-W715 |        | 5.04E-04 |        |        |          |        | 1.44E-04 |          |          |
| RL        | RL-W716 |        | 5.25E-03 |        |        |          |        |          | 5.72E-02 |          |
| RL        | RL-W717 |        | 1.31E-03 |        |        |          |        | 3.75E-04 | 1.43E-02 | 3.20E-03 |
| RL        | RL-W718 |        | 2.32E-04 |        |        |          |        | 6.61E-05 | 2.52E-03 |          |
| RL        | RL-W719 |        | 1.04E-03 |        |        |          |        | 2.98E-04 | 1.14E-02 | 2.55E-03 |
| RL        | RL-W720 |        | 6.47E-03 |        |        |          |        |          | 7.04E-02 |          |
| RL        | RL-W721 |        | 4.38E-03 |        |        |          |        | 1.25E-03 | 4.76E-02 |          |
| RL        | RL-W723 |        | 1.45E-02 |        |        | 1.05E-04 |        | 4.22E-03 | 1.62E-01 | 3.62E-02 |
| RL        | RL-W724 | 3.33   | 9.65E-02 |        |        | 9.55E-03 |        | 2.81E-02 | 1.07E+00 | 2.41E-01 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP_ID                            | Volume             | Am-241               | Am-243   | Cm-244   | Cs-137               | Np-237               | Pu-238               | Pu-239               | Pu-240               |
|-----------|------------------------------------|--------------------|----------------------|----------|----------|----------------------|----------------------|----------------------|----------------------|----------------------|
| RL        | RL-W725                            | 1.25               |                      |          |          | 7.15E-04             |                      | 8.86E-03             | 3.39E-01             | 7.60E-02             |
| RL        | RL-W726                            | 1.66               |                      |          |          | 1.15E-03             |                      | 6.99E-03             | 2.68E-01             | 5.99E-02             |
| RL        | RL-W727                            | 6.24               | 1.47E-01             |          |          | 1.09E-02             |                      | 4.29E-02             | 1.64E+00             | 3.68E-01             |
| RL        | RL-W728                            | 8.32               | 1.34E-01             |          |          | 9.90E-03             |                      | 3.91E-02             | 1.50E+00             | 3.35E-01             |
| RL        | RL-W729                            | 2.91               | 6.20E-02             |          |          | 1.50E-03             |                      | 1.81E-02             | 6.90E-01             | 1.55E-01             |
| RL        | RL-W730                            | 85.29              |                      |          |          |                      |                      |                      |                      |                      |
| RL        | RL-W731                            | 0.21               | 1.66E-05             |          |          | 3.86E-02             |                      |                      | 4.51E-04             | 1.86E-06             |
| RL        | RL-W732                            | 46.16              |                      |          |          |                      |                      | 7.33E+00             | 9.10E+01             | 2.02E+01             |
| RL        | RL-W733                            | 0.63               |                      |          |          | 7.26E-05             |                      | 1.34E-01             | 1.38E+00             | 3.44E-01             |
| RL        | RL-W734                            | 0.42               |                      |          |          | 1.28E-06             |                      | 4.47E-01             | 4.76E+00             | 1.16E+00             |
| RL        | RL-W735                            | 0.72               |                      |          |          | 1.202 00             |                      | 3.41E-01             | 3.71E+00             | 9.25E-01             |
| RL        | RL-W736                            | 0.21               | 1.21E-03             |          |          |                      |                      | 7.27E-07             | 2.46E-03             | 6.38E-04             |
| RL        | RL-W737                            | 0.21               |                      |          |          |                      |                      | 3.11E-01             | 3.52E+00             | 8.61E-01             |
| RL        | RL-W738                            |                    | 2.29E+00             |          |          |                      |                      | 1.07E+00             | 1.12E+01             | 2.97E+00             |
| RL        | RL-W739                            |                    | 1.84E-01             |          |          |                      |                      |                      | 1.12E+01<br>1.82E+00 | 4.17E-01             |
|           |                                    | 0.21               |                      |          |          | C 455 00             |                      | 9.44E-02             |                      |                      |
| RL        | RL-W740                            | 13.23              |                      |          |          | 6.45E-06             |                      | 3.46E+00             | 4.43E+01             | 1.16E+01             |
| RL        | RL-W741                            | 1.05               |                      |          |          |                      |                      | 8.14E+00             | 8.63E+00             | 6.16E+00             |
| RL        | RL-W742                            | 0.21               | 6.26E-01             |          |          | 4.005.04             |                      | 2.45E-01             | 2.80E+00             | 6.63E-01             |
| RL<br>RL  | RL-W743<br>RL-W744                 | 0.21<br>0.21       | 2.17E-03             |          |          | 1.26E-01             |                      | 6.65E-05             | 1.81E-03<br>9.03E-02 | 7.72E-02             |
| RL        | RL-W745                            | 0.21               | 1.44E-03             |          |          |                      |                      | 4.65E-04             | 1.75E-02             | 3.91E-03             |
| RL        | RL-W746                            | 0.42               | 5.55E-03             |          |          |                      |                      | 1.79E-03             | 6.72E-02             | 1.51E-02             |
| RL        | RL-W747                            | 0.21               | 1.50E-02             |          |          |                      |                      | 4.85E-03             | 1.82E-01             | 4.08E-02             |
| RL<br>RL  | RL-W748<br>RL-W749                 | 13.23<br>3.78      | 9.45E+01<br>1.34E-01 |          |          |                      |                      | 1.36E+01<br>4.16E-02 | 3.02E-01<br>1.58E+00 | 4.99E-01<br>3.53E-01 |
| RL        | RL-W750                            | 0.42               | 1.59E+02             |          |          |                      |                      | 2.06E+01             | 4.95E-01             | 8.15E-01             |
| RL        | RL-W751                            | 0.21               | 1.44E+02             |          |          |                      |                      | 1.86E+01             |                      |                      |
| RL        | RL-W752                            | 9.87               | 6.26E+01             |          |          |                      |                      | 8.08E+00             | 1.94E-01             | 3.21E-01             |
| RL<br>RP  | RL-W753<br>RP-W754                 | 12.15              |                      |          |          | 0.575.00             | 2.005.04             | 1.09E+02             |                      | 4.31E+00             |
| RP        | RP-W755                            | 1484.07<br>2447.97 | 7.44E+01<br>4.43E+02 |          |          | 2.57E+02<br>1.15E+03 | 3.00E-04<br>2.94F-03 |                      | 1.86E+03<br>1.39E+03 |                      |
| SA        | SA-T001                            | 5.41               | 9.07E-01             |          | 4.78E+00 | 11102100             | 1.81E-05             |                      | 3.03E+00             |                      |
| SA        | SA-W134                            | 16.02              | 7.20E+00             | 1.22E-02 | 1.85E-03 |                      | 1.24E-01             |                      | 1.38E+00             | 4.39E-01             |
| SA        | SA-W134M                           | 2.08               | 9.35E-01             | 1.59E-03 | 2.40E-04 | 8.95E+00             | 1.62E-02             | 1.75E-01             | 1.80E-01             |                      |
| SR<br>SR  | T001-221F-HET<br>T001-221H-HET     | 1963.82<br>3898.35 | 9.72E+02<br>1.93E+03 |          |          |                      | 3.03E-03             | 1.38E+05<br>2.73E+05 | 2.51E+04<br>4.99E+04 |                      |
| SR        | T001-22111-11E1                    | 184.90             |                      |          |          |                      |                      | 1.30E+04             |                      |                      |
| SR        | T001-772F-HET                      | 1468.39            |                      |          |          |                      |                      | 1.03E+05             | 1.88E+04             |                      |
| SR        | T001-773A-CLAS                     | 22.64              | 1.12E+01             |          |          |                      |                      |                      | 2.90E+02             |                      |
| SR        | T001-773A-HET                      |                    | 1.01E+02             |          |          |                      |                      |                      |                      | 6.44E+01             |
| SR<br>SR  | W006-773A-VIT<br>W026-221F-HET     |                    | 2.77E-03<br>3.89E+02 |          |          |                      | 9.04E-09             |                      | 5.37E+02             | 2.49E+02             |
| SR        | W026-221H-HET                      |                    | 2.91E+02             |          |          |                      |                      |                      | 7.52E+03             |                      |
| SR        | W026-235F-HET                      |                    | 4.53E+00             |          |          |                      |                      |                      |                      | 2.90E+00             |
| SR        | W026-772F-HET                      |                    | 1.24E+00             |          |          |                      |                      |                      | 3.19E+01             |                      |
| SR        | W026-773A-HET                      |                    | 2.01E+01             |          |          |                      |                      |                      | 5.20E+02             |                      |
| SR<br>SR  | W027-221F-HET<br>W027-221H-HET     |                    | 1.97E+03<br>8.61E+02 |          |          |                      |                      |                      | 3.90E+04<br>1.71E+04 |                      |
| SR        | W027-221H-HET                      |                    | 2.59E+02             |          |          |                      |                      |                      |                      | 4.22E+02<br>1.27E+02 |
| SR        | W027-772F-HET                      |                    | 4.71E+02             |          |          |                      |                      |                      |                      | 2.31E+02             |
| SR        | W027-773A-HET                      |                    | 7.02E+02             |          |          |                      | 5.38E-03             | 6.62E+04             | 1.39E+04             | 3.44E+02             |
| SR        | W027-999-HET                       |                    | 5.72E+02             |          |          |                      | 4.38E-03             | 5.39E+04             | 1.13E+04             | 2.80E+02             |
| SR<br>WP  | W053-773A-VIT<br>WP-INW169.001     | 0.62<br>17.01      | 3.31E+00             |          |          |                      | 1.06E-06             | 4 77F-∩1             | 3.99E+02<br>1.54F+01 | 3.44E+00             |
| WP        | WP-INW198.001                      |                    | 3.91E+00             |          |          |                      |                      |                      |                      | 6.12E+00             |
| WP        | WP-INW211.001                      |                    | 4.39E+02             |          |          |                      | 1.41E-04             | 7.81E+01             | 2.56E+03             | 5.68E+02             |
| WP        | WP-INW216.001-A                    |                    | 2.51E+04             |          |          |                      |                      |                      |                      | 3.30E+02             |
| WP<br>WP  | WP-INW216.001-B                    |                    | 6.90E+03             |          |          |                      |                      |                      | 4.01E+02             |                      |
| WP        | WP-INW218.001-A<br>WP-INW218.001-B |                    | 4.57E+02<br>1.50E+00 |          |          |                      |                      |                      |                      | 5.74E+01<br>1.56E+00 |
|           |                                    | ۵۳.∪ئ              | 1.00-100             |          |          |                      |                      | 0- 01                | 1.02-100             | 1.00-100             |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID              | Volume   | Am-241   | Am-243   | Cm-244   | Cs-137   | Np-237   | Pu-238   | Pu-239   | Pu-240   |
|-----------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| WP        | WP-INW222.001        | 30.24    | 1.67E+01 |          |          |          | 5.38E-06 | 2.35E+00 | 6.86E+01 | 1.54E+01 |
| WP        | WP-INW243.001        | 67.20    | 4.30E+01 |          |          |          | 2.75E-05 | 5.07E+00 | 1.44E+02 | 3.24E+01 |
| WP        | WP-INW247.001R1      | 108.36   | 5.25E+01 |          |          |          | 3.34E-05 | 1.18E+01 | 2.76E+02 | 6.30E+01 |
| WP        | WP-INW276.001        | 10.29    | 3.82E+00 |          |          |          | 5.84E-06 | 1.15E+00 | 2.73E+01 | 6.24E+00 |
| WP        | WP-INW276.002        | 16.17    | 6.21E+00 |          |          |          | 9.53E-06 | 1.73E+00 | 4.01E+01 | 9.36E+00 |
| WP        | WP-INW276.003        | 185.85   | 2.28E+02 |          |          |          | 1.45E-04 | 6.43E+01 | 1.49E+03 | 3.41E+02 |
| WP        | WP-INW276.004        | 46.62    | 5.76E+01 |          |          |          | 3.67E-05 | 1.36E+01 | 3.15E+02 | 7.20E+01 |
| WP        | WP-INW296.001-A      | 10.92    | 2.37E+01 |          |          |          | 1.52E-05 | 3.23E+00 | 7.91E+01 | 1.80E+01 |
| WP        | WP-INW296.001-B      | 81.06    | 6.78E+01 |          |          |          | 4.33E-05 | 1.14E+01 | 2.80E+02 | 6.36E+01 |
| WP        | WP-LA-TA-55-19.01-A  | 5.88     | 1.28E+00 | 2.79E-04 |          | 5.73E-07 | 6.35E-05 | 5.30E-01 | 2.09E+00 | 5.07E-01 |
| WP        | WP-LA-TA-55-19.01-B  | 75.20    | 5.06E+01 | 3.47E-03 |          | 4.76E-08 | 2.83E-03 | 1.78E+01 | 2.13E+02 | 5.22E+01 |
| WP        | WP-LA-TA-55-43.01    | 189.88   | 2.10E-01 | 9.57E-06 |          |          | 2.61E-05 | 4.15E+02 | 3.23E-01 | 1.37E-01 |
| WP        | WP-RF001.01          | 477.00   | 1.04E+02 | 6.53E-07 |          |          | 2.85E-02 | 1.44E+01 | 4.10E+02 | 9.37E+01 |
| WP        | WP-RF002.01-A        | 350.66   | 9.78E+01 | 3.14E-04 |          |          | 9.12E-04 | 1.92E+01 | 4.62E+02 | 1.06E+02 |
| WP        | WP-RF002.01-B        | 0.21     | 1.15E-01 |          |          |          | 1.80E-07 | 1.33E-02 | 5.00E-01 | 1.14E-01 |
| WP        | WP-RF003.01          | 232.26   | 1.47E+03 |          |          |          | 4.75E-03 | 3.09E+02 | 8.83E+03 | 2.02E+03 |
| WP        | WP-RF004.01          | 5.67     | 6.06E-01 |          |          |          | 8.43E-06 | 2.07E-01 | 5.09E+00 | 1.17E+00 |
| WP        | WP-RF005.01          | 120.54   | 5.17E+03 |          |          |          | 9.05E-03 | 1.57E+02 | 4.67E+03 | 1.06E+03 |
| WP        | WP-RF005.02          | 78.33    | 6.30E+03 |          |          |          | 1.03E-02 | 8.11E+01 | 2.79E+03 | 6.29E+02 |
| WP        | WP-RF006.01          | 220.92   | 1.68E+03 |          |          |          | 1.26E-02 | 2.95E+02 | 7.94E+03 | 1.82E+03 |
| WP        | WP-RF008.01          | 80.01    | 3.88E+02 |          |          |          | 5.51E-03 | 1.05E+02 | 2.32E+03 | 5.41E+02 |
| WP        | WP-RF009.01          | 1299.06  | 6.23E+04 |          |          |          | 4.00E-01 | 1.29E+03 | 5.09E+04 | 1.14E+04 |
| WP        | WP-RF010.01          | 55.50    | 1.43E+01 |          |          |          | 1.39E-04 | 3.27E+00 | 7.69E+01 | 1.76E+01 |
| WP        | WP-RF029.01-A        | 48.88    | 3.55E+00 | 7.51E-07 |          |          | 7.42E-05 | 6.15E-01 | 1.35E+01 | 3.10E+00 |
| WP        | WP-RF029.01-B        | 18.80    | 6.88E+00 | 3.42E-05 |          |          | 1.11E-03 | 4.87E-01 | 1.07E+01 | 2.45E+00 |
| WP        | WP-RF118.01          | 1273.44  | 8.86E+03 | 6.12E-04 |          |          | 4.26E-02 | 2.45E+03 | 5.14E+04 | 1.15E+04 |
| WP        | WP-RLMPDT.001        | 7.35     | 1.84E+00 |          |          | 3.65E-07 | 5.88E-07 | 7.15E-01 | 7.36E+00 | 1.92E+00 |
| WP        | WP-RLNPDT.002        | 90.72    | 2.36E+01 | 9.60E-05 |          | 2.34E-04 | 1.49E-05 | 6.81E+00 | 7.23E+01 | 1.95E+01 |
| WP        | WP-SR2001.001.00     | 61.74    | 4.19E-01 |          |          | 5.99E-05 | 2.48E-07 | 7.83E-01 | 6.83E+00 | 1.36E+00 |
| WP        | WP-SR-W027-221F-HETA | 141.12   | 5.43E+00 |          |          | 9.03E-05 | 2.89E-05 | 2.30E+00 | 1.96E+01 | 5.49E+00 |
| Total:    |                      | 1.68E+05 | 4.75E+05 | 7.78E+01 | 6.17E+03 | 7.38E+03 | 6.22E+00 | 1.45E+06 | 5.78E+05 | 9.41E+04 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID                    | Pu-241   | Pu-242               | Pu-244   | Sr-90    | Th-229    | Th-230    | Th-232               | U-233                | U-234                |
|-----------|----------------------------|----------|----------------------|----------|----------|-----------|-----------|----------------------|----------------------|----------------------|
| AE        | AE-T001                    | 1.97E+02 | 8.28E-02             |          | 3.10E+00 | 1.70E-04  | 1.52E-06  | 7.50E-05             | 1.14E-01             | 1.09E-02             |
| AE        | AE-T003                    | 1.11E+02 | 5.90E-04             |          | 3.16E-02 | 2.36E-05  | 6.81E-09  | 3.03E-15             | 1.80E-02             | 9.55E-05             |
| AW        | AW-N026.82                 |          |                      |          | 1.51E+00 |           |           |                      |                      |                      |
| AW        | AW-N027.531                | 2.09E-01 | 2.97E-06             |          |          | 3.40E-10  | 3.00E-09  | 1.73E-19             | 3.63E-06             | 4.06E-04             |
| AW        | AW-T033.1325               | 6.67E-01 | 9.48E-06             |          |          | 1.09E-09  | 9.57E-09  | 5.51E-19             | 1.16E-05             | 1.30E-03             |
| AW        | AW-W049                    |          |                      |          |          |           |           |                      |                      |                      |
| ВС        | BCLCH-MT01                 | 3.60E+02 | 1.23E-03             |          |          |           |           |                      |                      |                      |
| BT        | BT-T002                    | 1.58E-01 | 1.15E-05             | 6.62E-13 | 2.14E+01 |           |           | 5.64E-14             |                      | 1.99E-03             |
| ET        | ET-C1-B55                  | 2.79E-01 |                      |          |          | 2.09E-15  | 2.75E-08  | 3.84E-18             | 5.21E-12             | 2.36E-04             |
| ET        | ET-C1-D139                 | 3.71E-02 | 1.98E-06             |          |          | 3.57E-16  | 3.96E-12  | 6.27E-19             | 8.30E-13             | 6.18E-08             |
| ET        | ET-C2-SEFOR                | 5.72E-01 |                      |          | 1.16E-02 | 1.00E-14  |           | 6.62E-18             | 2.31E-11             |                      |
| IN        | IN-BN-510                  | 8.89E+04 | 5.74E-01             |          |          | 1.01E+00  | 1.26E-04  | 2.44E+00             | 8.31E+02             | 2.12E+00             |
| IN        | IN-GEM-01                  | 3.94E+01 | 3.75E-04             |          |          |           |           |                      |                      |                      |
| IN        | IN-GEM-02                  | 9.36E+00 | 8.91E-05             |          |          |           |           |                      |                      |                      |
| IN        | IN-ICP-002                 |          |                      |          |          | 1.01E-03  | 4.39E-03  | 1.01E-09             | 3.38E-01             | 1.54E+01             |
| IN        | IN-ICP-003                 |          |                      |          |          | 4.27E-04  | 1.85E-03  | 4.28E-10             | 1.43E-01             | 6.50E+00             |
| IN        | IN-ICP-004                 |          |                      |          |          | 8.81E-05  | 3.88E-04  | 8.82E-11             | 2.94E-02             | 1.36E+00             |
| IN        | IN-ICP-005                 |          |                      |          |          | 5.88E-04  | 2.55E-03  | 5.89E-10             | 1.96E-01             | 8.94E+00             |
| IN        | IN-W157.144                | 6.18E+02 | 1.12E-02             |          |          | 2.96E-12  | 2.10E-08  | 7.63E-15             | 7.45E-09             | 3.53E-04             |
| IN        | IN-W163.1007               | 1.91E+02 | 4.22E-03             |          |          | 7.95E-14  | 6.53E-09  | 2.37E-15             | 2.53E-10             | 1.10E-04             |
| IN        | IN-W164.153                | 1.81E+00 | 3.36E-05             |          |          | 7.54E-16  | 6.19E-11  | 2.25E-17             | 2.40E-12             | 1.04E-06             |
| IN        | IN-W167.149                | 2.93E+02 | 5.37E-03             |          |          | 5.02E-13  |           | 3.66E-15             | 1.32E-09             | 1.69E-04             |
| IN        | IN-W174.154                |          |                      |          |          |           | 5.69E-06  | 4.28E-16             |                      | 9.57E-02             |
| IN        | IN-W177.156                | 2.53E-01 | 1.45E-05             |          |          |           | 1.21E-05  | 1.24E-18             | 3.34E-13             | 2.04E-01             |
| IN        | IN-W179.158                | 1.70E+00 | 1.09E-04             |          |          |           | 1.21E-05  | 6.15E-18             | 2.25E-12             | 2.03E-01             |
| IN        | IN-W181.162                | 8.80E+01 | 4.45E-04             |          |          |           | 2.01E-09  | 7.65E-16             | 1.17E-10             | 3.38E-05             |
| IN        | IN-W188.160                | 1.62E+02 | 3.00E-03             |          |          |           | 5.53E-09  | 2.01E-15             | 2.14E-10             | 9.30E-05             |
| IN        | IN-W216.98                 | 1.32E+04 | 2.40E-01             |          |          |           | 4.51E-07  | 1.64E-13             | 1.92E-05             | 7.59E-03             |
| IN        | IN-W218.909                | 1.05E+03 | 5.31E-03             |          |          | 7.77E-11  | 2.40E-08  | 9.15E-15             | 1.91E-07             | 4.03E-04             |
| IN        | IN-W219.110                | 1.57E+01 | 7.93E-05             |          |          |           | 3.58E-10  | 1.36E-16             | 2.08E-11             | 6.01E-06             |
| IN        | IN-W219.914                | 2.48E+00 | 1.25E-05             |          |          | 1.03E-15  |           | 2.15E-17             | 3.28E-12             | 9.47E-07             |
| IN        | IN-W220.114                | 1.04E+03 | 1.88E-02             |          |          | 9.80E-04  | 3.55E-08  | 1.34E-14             | 8.04E-01             | 5.96E-04             |
| IN        | IN-W221.927                | 6.02E+01 | 1.11E-03             |          |          | 2.51E-14  | 2.05E-09  | 7.47E-16             | 7.97E-11             | 3.45E-05             |
| IN<br>IN  | IN-W222.116<br>IN-W228.101 | 2.04E+03 | 3.70E-02             |          |          |           | 6.97E-08  | 2.53E-14             | 2.90E-09             | 1.17E-03             |
| IN        |                            |          | 1.20E-02             |          |          |           |           | 1.05E-14             | 1.73E-07             |                      |
| IN        | IN-W240.931<br>IN-W243.808 |          | 1.54E-02<br>2.70E-02 |          |          |           | 5.08E-08  | 1.85E-14             | 9.14E-09<br>8.78E-09 | 4.86E-04<br>8.54E-04 |
| IN        | IN-W245.301                |          | 5.26E-02             |          |          |           | 9.94E-08  | 3.61E-14             | 4.38E-09             | 1.67E-03             |
| IN        | IN-W247.810                | 1.42E+03 |                      |          |          |           | 4.84E-08  | 1.76E-14             | 2.11E-09             | 8.14E-04             |
| IN        | IN-W249.527                | 1.42L+03 | 2.37 L-02            |          |          | 0.03L-13  | 3.40E-06  | 1.70L-14             | 2.11L-03             | 5.71E-02             |
| IN        | IN-W263.520                | 1.48E+00 | 2 64F-05             |          |          | 6 16F-16  | 8.53E-07  | 3.74E-18             | 1.96E-12             | 1.43E-02             |
| IN        | IN-W267.1005               |          | 8.05E-03             |          |          |           | 1.18E-08  | 4.26E-15             |                      | 1.43E-02<br>1.98E-04 |
| IN        | IN-W309.609                | 5.79E+03 |                      |          |          | 2.13E-11  |           | 7.15E-14             | 5.41E-08             | 3.34E-03             |
| IN        | IN-W315.601                | 9.15E+01 | 4.61E-04             |          |          |           | 2.09E-09  | 7.13E 14<br>7.96E-16 | 2.62E-07             | 3.51E-05             |
| IN        | IN-W319.584                | 5.31E+01 | 1.40E-03             |          |          |           | 1.82E-09  | 6.58E-16             | 7.02E-11             | 3.05E-05             |
| IN        | IN-W321.1023               | 4.59E+02 | 6.77E-03             |          |          | 1.91E-13  | 1.57E-08  | 5.70E-15             | 6.08E-10             | 2.64E-04             |
| IN        | IN-W322.851                | 1.002102 | 5                    |          |          | 1.012 10  | 7.07 = 00 | 2.34E-16             | 3.00L 10             | 0 0-4                |
| IN        | IN-W322.952                |          |                      |          |          |           |           | 6.24E-16             |                      |                      |
| IN        | IN-W323.562                | 1.56E+00 |                      |          |          | 6.48E-16  | 2.83E-09  | 3.2.2.10             | 2.06E-12             | 4.76E-05             |
|           |                            |          |                      |          |          | 31.102.10 |           |                      |                      | 52 55                |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID      | Pu-241   | Pu-242   | Pu-244   | Sr-90 | Th-229    | Th-230               | Th-232   | U-233    | U-234    |
|-----------|--------------|----------|----------|----------|-------|-----------|----------------------|----------|----------|----------|
| IN        | IN-W332.661  |          |          |          |       |           | 3.50E-08             |          |          | 5.90E-04 |
| IN        | IN-W337.673  |          |          |          |       |           |                      | 7.81E-17 |          |          |
| IN        | IN-W337.957  |          |          |          |       |           |                      | 2.34E-16 |          |          |
| IN        | IN-W342.652  |          |          | 1.88E-14 |       | 2.22E-13  |                      |          | 5.47E-10 |          |
| IN        | IN-W342.953  |          |          | 1.25E-14 |       | 1.49E-13  |                      |          | 3.65E-10 |          |
| IN        | IN-W347.818  |          |          |          |       | 1.29E-13  | 2.09E-12             | 2.86E-05 | 3.17E-10 | 3.58E-08 |
| IN        | IN-W348.1012 | 8.49E+02 | 1.53E-02 |          |       | 3.60E-13  | 2.90E-08             | 1.05E-14 | 1.14E-09 | 4.87E-04 |
| IN        | IN-W353.917  |          |          |          |       | 2.37E-12  |                      |          | 3.89E-09 |          |
| IN        | IN-W357.1022 | 1.66E+00 | 3.42E-05 |          |       | 6.93E-16  | 5.67E-11             | 2.06E-17 | 2.20E-12 | 9.54E-07 |
| IN        | IN-W358.854  |          |          |          |       |           | 2.54E-07             | 1.30E-16 |          | 8.00E-03 |
| IN        | IN-W358.855  |          |          |          |       |           | 1.36E-06             | 6.93E-16 |          | 4.27E-02 |
| IN        | IN-W358.948  |          |          |          |       |           | 2.83E-07             | 1.44E-16 |          | 8.90E-03 |
| IN        | IN-W361.1021 | 1.61E+02 | 2.84E-03 |          |       | 6.88E-14  | 5.50E-09             | 2.00E-15 | 2.17E-10 | 9.25E-05 |
| IN        | IN-W362.1020 | 2.10E+03 | 3.62E-02 |          |       | 8.74E-13  | 7.17E-08             | 2.60E-14 | 2.78E-09 | 1.21E-03 |
| IN        | IN-W363.1019 | 9.86E+01 | 1.52E-03 |          |       | 4.11E-14  | 3.38E-09             | 1.22E-15 | 1.31E-10 | 5.68E-05 |
| IN        | IN-W364.1011 | 1.63E+02 | 3.78E-03 |          |       | 6.78E-14  | 5.56E-09             | 2.01E-15 | 2.15E-10 | 9.35E-05 |
| IN        | IN-W365.1010 | 1.29E+02 | 2.49E-03 |          |       | 1.71E-11  | 4.42E-09             | 1.60E-15 | 4.20E-08 | 7.44E-05 |
| IN        | IN-W366.841  | 1.10E+02 | 1.92E-03 |          |       | 1.06E-13  | 3.76E-09             | 1.36E-15 | 2.94E-10 | 6.33E-05 |
| IN        | IN-W372.832  |          |          | 1.88E-14 |       | 2.22E-13  |                      |          | 5.47E-10 |          |
| IN        | IN-W375.1096 | 4.06E+01 | 7.39E-04 |          |       | 1.69E-14  | 1.39E-09             | 5.04E-16 | 5.38E-11 | 2.33E-05 |
| KN        | KN-B234TRU   | 3.85E+02 | 5.68E-04 |          |       |           |                      | 4.04E-05 | 2.09E-02 | 1.47E-03 |
| LA        | LA-IT-00-01  | 9.85E-08 |          |          |       | 2.53E-08  | 4.46E-08             | 1.83E-18 | 9.98E-06 | 3.55E-04 |
| LA        | LA-OS-00-01  |          |          |          |       | 8.34E-14  | 1.71E-06             |          | 2.67E-09 | 3.81E-01 |
| LA        | LA-PX-00-01  | 1.63E-01 |          |          |       | 7.00E-17  | 3.80E-12             | 5.61E-19 | 3.77E-13 | 1.40E-07 |
| LA        | LA-SL-00-01  |          |          |          |       | 7.07E-10  | 1.68E-09             |          | 5.80E-07 | 1.39E-05 |
| LA        | LA-TA-03-12  | 9.66E-01 | 3.81E-05 | 2.09E-12 |       | 1.85E-12  | 5.43E-08             | 1.39E-16 | 1.35E-09 | 3.82E-04 |
| LA        | LA-TA-03-13  | 1.28E+00 | 2.60E-04 | 2.39E-10 |       |           | 3.50E-08             | 6.33E-17 | 6.36E-10 | 5.33E-04 |
| LA        | LA-TA-03-19  | 1.98E+00 | 2.27E-04 | 1.32E-10 |       | 6.26E-12  | 2.53E-07             | 3.56E-16 | 4.55E-09 | 1.79E-03 |
| LA        | LA-TA-03-20  | 1.62E+00 | 4.57E-05 |          |       | 1.10E-11  | 8.00E-08             | 9.50E-17 | 9.46E-09 | 6.89E-04 |
| LA        | LA-TA-03-24  | 1.68E+00 | 5.72E-05 |          |       | 1.03E-11  | 4.95E-07             | 2.34E-16 | 7.16E-09 | 3.41E-03 |
| LA        | LA-TA-03-26  | 1.47E-01 | 2.55E-06 |          |       | 4.33E-15  | 2.63E-07             | 5.64E-15 | 5.50E-12 | 1.01E-03 |
| LA        | LA-TA-03-28  |          |          |          |       |           | 6.11E-09             |          |          | 4.52E-05 |
| LA        | LA-TA-03-30  | 7.70E+00 | 2.20E-04 |          |       | 1.25E-13  | 4.04E-09             | 8.39E-16 | 1.79E-10 | 3.10E-05 |
| LA        | LA-TA-03-31  | 2.30E-02 |          |          |       | 6.08E-13  | 5.07E-07             | 3.21E-18 | 6.69E-10 | 1.96E-03 |
| LA        | LA-TA-03-40  |          |          |          |       | 0.707.40  | 3.70E-10             |          |          | 2.64E-06 |
| LA        | LA-TA-03-42  | 1.61E-04 |          |          |       |           |                      |          | 4.97E-15 |          |
| LA        | LA-TA-21-06  | 1.66E+00 |          |          |       |           | 9.49E-07             |          | 4.45E-11 | 7.01E-03 |
| LA        | LA-TA-21-12  | 5.70E+00 | 1.97E-04 |          |       |           | 5.73E-06             | 6.14E-16 | 3.01E-01 | 4.23E-02 |
| LA        | LA-TA-21-13  | 0.045.00 |          |          |       | 8.43E-13  |                      | 4.005.01 | 8.67E-10 | 4.705.04 |
| LA        | LA-TA-21-14  | 2.31E-03 | 4 205 25 |          |       |           | 5.66E-09             |          | 3.57E-15 | 1.78E-04 |
| LA        | LA-TA-21-15  |          | 1.38E-05 |          |       |           |                      |          | 2.24E-11 | 2.13E-06 |
| LA        | LA-TA-21-16  |          | 2.17E-04 |          |       |           | 4.98E-09             | 1.67E-15 | 3.11E-10 | 3.55E-05 |
| LA        | LA-TA-21-40  | 1.85E-03 | 2.14E-08 |          |       | 1.12E-17  | 1.26E-08             | 1.44E-19 | 1.97E-14 | 1.18E-04 |
| LA        | LA-TA-21-41  | 6.04E.00 | 6.400.07 |          |       | 5 22E 44  | 7 755 00             | 7 02E 40 | 2 02E 44 | 5 24E 0F |
| LA        | LA-TA-21-42  | 6.01E-02 | 6.48E-07 |          |       |           | 7.75E-09             | 7.92E-18 | 3.93E-11 | 5.34E-05 |
| LA        | LA-TA-21-43  | 9.99E-03 |          |          |       |           | 3.96E-03             | 0.245.40 | 1.66E-06 |          |
| LA        | LA-TA-21-44  | 5.69E+00 | 1 60E 0F |          |       |           | 4.24E-08             |          | 9.64E-13 |          |
| LA<br>LA  | LA-TA-48-01  | 5.56E-01 | 1.68E-05 |          |       |           | 1.18E-10<br>7.21E-05 |          |          | 1.06E-06 |
|           | LA-TA-49-01  | 1.09E-01 |          |          |       |           |                      | 9.24E-18 | 1.41E-12 | 3.39E-01 |
| LA        | LA-TA-50-10  |          |          |          |       | 0.0/ E-1/ | 4.17E-12             |          | 5.67E-13 | 1.84E-07 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP ID         | Pu-241   | Pu-242   | Pu-244   | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|-----------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| LA        | <br>LA-TA-50-11 | 5.50E-01 | 6.03E-06 |          |          | 5.76E-15 | 1.24E-09 | 3.70E-17 | 9.40E-12 | 1.25E-05 |
| LA        | LA-TA-50-15     | 4.67E-01 | 5.60E-06 |          | 7.42E-03 | 1.62E-14 | 1.15E-08 | 3.76E-17 | 2.65E-11 | 1.21E-04 |
| LA        | LA-TA-50-17     | 3.45E-02 | 8.76E-08 |          |          | 7.12E-07 | 5.19E-08 | 8.25E-20 | 4.22E-04 | 3.54E-04 |
| LA        | LA-TA-50-18     | 1.26E-03 | 1.61E-09 |          |          | 5.78E-07 | 2.78E-09 | 3.54E-21 | 2.06E-04 | 1.98E-05 |
| LA        | LA-TA-50-19     | 1.56E-02 | 2.65E-07 |          |          | 3.07E-13 | 8.70E-09 | 3.23E-18 | 2.90E-10 | 3.56E-05 |
| LA        | LA-TA-50-20     |          |          |          |          | 2.93E-15 |          |          | 3.89E-12 |          |
| LA        | LA-TA-50-40     | 5.00E-02 | 1.65E-06 |          |          | 3.73E-16 | 1.04E-11 | 2.10E-18 | 6.29E-13 | 9.31E-08 |
| LA        | LA-TA-50-41     | 8.91E-02 | 6.36E-07 |          |          | 3.71E-17 | 2.88E-12 | 1.37E-18 | 1.18E-13 | 4.84E-08 |
| LA        | LA-TA-55-19     | 4.00E+01 | 1.81E-02 | 2.14E-08 |          | 4.47E-07 | 2.76E-07 | 8.68E-15 | 1.99E-04 | 1.33E-03 |
| LA        | LA-TA-55-20     | 9.06E+02 | 8.20E-03 |          |          | 4.90E-10 | 8.52E-06 | 2.69E-13 | 7.49E-07 | 6.79E-02 |
| LA        | LA-TA-55-21     | 1.04E+01 | 2.12E-03 | 1.82E-09 |          | 5.01E-14 | 4.24E-10 | 1.15E-16 | 1.15E-10 | 7.73E-06 |
| LA        | LA-TA-55-22     | 3.22E+01 | 2.86E-04 | 7.74E-11 |          | 6.64E-12 | 2.39E-09 | 3.94E-16 | 1.19E-08 | 4.36E-05 |
| LA        | LA-TA-55-23     | 3.17E+01 | 1.70E-02 | 1.93E-08 |          | 4.78E-14 | 1.66E-09 | 2.40E-16 | 1.45E-10 | 3.31E-05 |
| LA        | LA-TA-55-24     | 1.51E+01 | 7.70E-05 |          |          | 2.72E-15 | 7.59E-11 | 3.53E-17 | 1.49E-11 | 2.79E-06 |
| LA        | LA-TA-55-25     | 7.73E+01 | 3.04E-03 |          |          | 1.39E-14 | 4.42E-10 | 1.76E-16 | 7.60E-11 | 1.63E-05 |
| LA        | LA-TA-55-28     | 2.51E+01 | 1.06E-02 | 6.90E-09 |          | 7.65E-15 | 3.35E-10 | 7.44E-17 | 3.59E-11 | 1.06E-05 |
| LA        | LA-TA-55-30     | 1.50E+02 | 2.69E-02 | 3.20E-08 |          | 6.95E-07 | 9.70E-08 | 1.32E-14 | 3.09E-04 | 6.34E-04 |
| LA        | LA-TA-55-32     | 2.29E+01 | 5.25E-03 | 6.51E-09 |          | 5.60E-13 | 4.76E-07 | 6.31E-15 | 8.28E-10 | 3.50E-03 |
| LA        | LA-TA-55-33     | 3.22E+00 | 7.45E-05 |          |          | 8.83E-14 | 6.80E-10 | 1.85E-16 | 1.30E-10 | 6.39E-06 |
| LA        | LA-TA-55-34     | 2.98E+02 | 1.78E-02 | 1.86E-08 |          | 2.89E-06 | 4.30E-07 | 1.63E-14 | 1.54E-03 | 2.58E-03 |
| LA        | LA-TA-55-38     | 7.92E+01 | 1.52E-02 | 1.57E-08 |          | 9.11E-07 | 3.26E-07 | 1.19E-06 | 4.23E-04 | 1.66E-03 |
| LA        | LA-TA-55-39     | 1.59E+02 | 1.02E-03 |          |          | 1.69E-13 | 2.70E-09 | 1.26E-15 | 5.61E-10 | 5.93E-05 |
| LA        | LA-TA-55-41     | 1.62E+02 | 6.13E-02 | 7.83E-08 |          | 1.41E-11 | 7.79E-09 | 2.28E-15 | 3.47E-08 | 1.31E-04 |
| LA        | LA-TA-55-43     | 1.76E+00 | 3.34E-05 |          |          | 8.84E-16 | 2.96E-07 | 2.97E-18 | 3.29E-12 | 7.24E-03 |
| LA        | LA-TA-55-44     | 5.20E+00 | 2.29E-04 | 4.84E-11 |          | 2.43E-13 | 5.37E-06 | 3.71E-16 | 3.37E-10 | 4.82E-02 |
| LA        | LA-TA-55-48     | 2.91E+00 | 8.45E-05 |          |          | 3.95E-14 | 1.87E-06 | 3.35E-17 | 6.48E-11 | 1.92E-02 |
| LA        | LA-TA-55-49     | 6.35E+01 | 1.92E-03 |          |          | 3.83E-12 | 2.55E-05 | 3.67E-15 | 5.45E-09 | 2.39E-01 |
| LA        | LA-TA-55-53     | 2.81E+02 | 8.54E-03 | 7.32E-09 |          | 1.07E-11 | 3.67E-08 | 1.62E-14 | 1.67E-08 | 3.70E-04 |
| LA        | LA-TA-55-56     | 5.82E+02 | 6.24E-03 |          |          | 1.95E-11 | 5.88E-07 | 1.22E-14 | 3.00E-08 | 8.49E-03 |
| LA        | LA-TA-55-60     | 4.74E-01 | 2.58E-03 | 2.45E-09 |          | 2.50E-12 | 4.94E-10 | 9.98E-18 | 2.33E-09 | 4.64E-06 |
| LA        | LA-TA-55-61     | 4.61E-01 | 9.72E-05 | 8.24E-11 |          | 2.57E-15 | 1.88E-09 | 1.53E-17 | 4.65E-12 | 1.94E-05 |
| LA        | LA-TA-55-62     | 1.24E-01 | 3.70E-06 |          |          | 6.04E-16 | 1.97E-11 | 3.99E-18 | 1.11E-12 | 1.94E-07 |
| LA        | LA-TA-55-63     | 1.22E-01 | 1.00E-06 |          |          | 1.31E-16 | 6.84E-12 | 3.27E-18 | 3.36E-13 | 9.32E-08 |
| LL        | LL-M001         | 8.81E+02 |          |          |          |          |          |          |          |          |
| LL        | LL-T001         | 5.40E+03 |          |          |          |          |          |          |          |          |
| LL        | LL-T002         | 4.77E+04 |          |          |          |          |          |          |          |          |
| LL        | LL-T003         | 1.87E+03 |          |          |          |          |          |          |          |          |
| LL        | LL-T004         | 1.19E+03 |          |          |          |          |          |          |          |          |
| LL        | LL-T005         | 4.62E+03 |          |          |          |          |          |          |          |          |
| LL        | LL-W018         | 1.25E+00 |          |          |          |          |          |          |          |          |
| LL        | LL-W019         | 3.08E+02 |          |          |          |          |          |          |          |          |
| LL        | LL-W034         | 1.04E+02 |          |          |          | . === :  |          |          | 0.00= :  |          |
| MC        | MC-W001         | 1.88E-01 |          |          |          | 1.73E-15 |          |          | 6.93E-12 | 0.0=- :: |
| MU        | MU-W002         | 4.6== =  |          |          |          | 1.50E-12 | 4.80E-17 |          | 8.01E-09 | 2.67E-12 |
| NT        | NT-JAS-01       | 1.67E+03 | 0.00= -  |          | 0.707    | 0.000    |          |          | 101= -   | == -     |
| NT        | NT-W001         | 1.63E+02 |          | 1.02E-06 | 9.56E-05 |          | 1.21E-06 |          | 1.84E+00 | 1.15E-02 |
| NT        | NT-W021         | 8.39E+01 | 6.53E-04 | 0.00= -  | 101      | 9.01E-14 | 3.41E-09 | 1.39E-15 | 2.31E-10 | 4.65E-05 |
| OR        | OR-W201         | 6.26E+04 | 1.26E-01 | 2.69E-09 |          |          | 4.74E-03 | 4.07E-05 | 3.88E+01 | 3.10E+01 |
| OR        | OR-W202         | 2.01E+03 |          | 5.41E-09 |          | 2.76E-01 | 5.92E-05 | 1.97E-03 | 1.73E+02 | 3.22E-01 |
| OR        | OR-W203         | 5.10E+00 | 1.21E-02 | 3.90E-10 | 2.37E+01 | 1.45E-13 | 3.43E-09 | 1.93E-16 | 2.77E-10 | 4.39E-05 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID    | Pu-241   | Pu-242   | Pu-244 | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|-----------|------------|----------|----------|--------|----------|----------|----------|----------|----------|----------|
| OR        | OR-W204    |          | 5.47E-07 |        | 1.03E-02 | 8.06E-04 | 3.89E-09 | 4.78E-17 | 5.06E-01 | 4.97E-05 |
| PA        | PA-A015    |          |          |        |          | 1.77E-09 | 6.95E-02 |          | 2.91E-06 |          |
| RF        | RF-MT0001  | 6.45E+02 | 5.68E-03 |        |          | 7.44E-11 | 1.64E-08 | 4.74E-15 | 1.98E-07 | 2.99E-04 |
| RF        | RF-MT0002  | 4.95E+01 | 4.36E-04 |        |          | 5.71E-12 | 1.26E-09 | 3.64E-16 | 1.52E-08 | 2.30E-05 |
| RF        | RF-MT0003  | 1.13E+01 | 1.00E-04 |        |          | 3.61E-15 | 2.89E-10 | 8.34E-17 | 1.22E-11 | 5.27E-06 |
| RF        | RF-MT0007  | 1.31E+00 |          |        |          | 6.41E-14 |          | 1.04E-17 | 1.71E-10 |          |
| RF        | RF-MT0089  | 1.13E-01 | 9.98E-07 |        |          | 3.30E-17 | 2.88E-12 | 8.33E-19 | 1.14E-13 | 5.26E-08 |
| RF        | RF-MT0090  | 1.13E+02 | 1.23E-03 |        |          | 4.33E-13 | 4.08E-09 | 2.12E-15 | 1.18E-09 | 7.45E-05 |
| RF        | RF-MT0091  | 9.33E+03 | 8.40E-02 |        |          | 2.23E-11 | 7.45E-07 | 1.43E-13 | 6.14E-08 | 1.06E-02 |
| RF        | RF-MT0092  | 1.29E+03 | 1.26E-02 |        |          | 3.26E-12 | 5.20E-08 | 2.08E-14 | 8.98E-09 | 9.48E-04 |
| RF        | RF-MT0093  | 1.10E+03 | 1.44E-02 |        |          | 2.60E-11 | 5.36E-08 | 2.28E-14 | 5.09E-08 | 9.78E-04 |
| RF        | RF-MT0097  | 6.01E+01 | 4.92E-04 |        |          | 2.37E-13 | 2.36E-09 | 1.04E-15 | 6.45E-10 | 4.30E-05 |
| RF        | RF-MT0099  | 1.70E-01 | 1.50E-06 |        |          | 4.94E-17 | 4.32E-12 | 1.25E-18 | 1.71E-13 | 7.89E-08 |
| RF        | RF-MT0290  | 4.21E+02 | 3.71E-03 |        |          | 1.22E-13 | 1.07E-08 | 3.09E-15 | 4.22E-10 | 1.95E-04 |
| RF        | RF-MT-0292 | 5.32E+02 | 4.69E-03 |        |          | 1.55E-13 | 1.35E-08 | 3.91E-15 | 5.34E-10 | 2.47E-04 |
| RF        | RF-MT-0299 | 1.37E+04 | 1.20E-01 |        |          | 1.17E-10 | 3.47E-07 | 1.00E-13 | 3.15E-07 | 6.33E-03 |
| RF        | RF-MT0302  | 5.32E-01 | 4.67E-06 |        |          | 5.04E-15 | 1.83E-09 | 4.33E-18 | 1.01E-11 | 1.71E-05 |
| RF        | RF-MT0320  | 5.35E+02 | 4.89E-03 |        |          | 3.95E-12 | 1.56E-08 | 4.21E-15 | 8.52E-09 | 2.72E-04 |
| RF        | RF-MT0321  | 1.33E+02 | 1.52E-03 |        |          | 1.17E-11 | 2.35E-07 | 1.19E-15 | 2.17E-08 | 2.21E-03 |
| RF        | RF-MT-0328 | 1.61E+01 | 1.42E-04 |        |          | 3.53E-13 | 2.98E-08 | 1.18E-16 | 6.74E-10 | 2.80E-04 |
| RF        | RF-MT0330  | 1.69E+02 | 1.87E-03 |        |          | 1.70E-12 | 5.00E-09 | 2.87E-15 | 3.60E-09 | 9.13E-05 |
| RF        | RF-MT-0331 | 1.09E+03 | 1.27E-02 |        |          | 1.15E-11 | 2.27E-06 | 1.28E-14 | 2.44E-08 | 2.14E-02 |
| RF        | RF-MT0332  | 3.97E-01 | 3.49E-06 |        |          | 1.15E-16 | 1.01E-11 | 2.91E-18 | 3.98E-13 | 1.84E-07 |
| RF        | RF-MT-0335 | 1.62E+01 | 1.52E-04 |        |          | 3.61E-13 | 5.90E-08 | 1.51E-16 | 6.82E-10 | 5.51E-04 |
| RF        | RF-MT0336  | 9.50E+02 | 1.17E-02 |        |          | 3.68E-12 | 2.27E-07 | 1.06E-14 | 9.68E-09 | 2.38E-03 |
| RF        | RF-MT0337  | 4.64E+02 | 5.76E-03 |        |          | 2.25E-12 | 4.32E-07 | 6.40E-15 | 5.87E-09 | 4.16E-03 |
| RF        | RF-MT0339  | 1.39E+03 | 1.19E-02 |        |          | 8.82E-11 | 1.56E-06 | 1.17E-14 | 1.61E-07 | 1.48E-02 |
| RF        | RF-MT-0342 | 1.23E+01 | 1.15E-04 |        |          | 2.72E-13 | 6.70E-09 | 1.30E-16 | 5.05E-10 | 6.55E-05 |
| RF        | RF-MT0371  | 3.51E+03 | 3.09E-02 |        |          | 7.24E-11 | 2.29E-07 | 2.58E-14 | 1.37E-07 | 2.92E-03 |
| RF        | RF-MT-0372 | 2.17E+01 | 1.94E-04 |        |          | 8.78E-14 | 2.65E-08 | 1.80E-16 | 1.84E-10 | 2.51E-04 |
| RF        | RF-MT0373  | 1.79E+02 | 1.94E-03 |        |          | 6.86E-13 | 6.46E-09 | 3.36E-15 | 1.87E-09 | 1.18E-04 |
| RF        | RF-MT0374  | 9.07E+00 | 8.00E-05 |        |          | 1.60E-13 | 5.89E-10 | 6.68E-17 | 3.00E-10 | 7.54E-06 |
| RF        | RF-MT0376  | 6.69E+00 | 6.21E-05 |        |          | 6.47E-14 | 1.82E-09 | 6.76E-17 | 1.28E-10 | 1.85E-05 |
| RF        | RF-MT0377  | 4.22E+03 | 3.72E-02 |        |          | 9.88E-11 | 1.21E-06 | 3.11E-14 | 1.83E-07 | 1.22E-02 |
| RF        | RF-MT0378  | 5.84E+01 | 5.15E-04 |        |          | 5.37E-13 | 1.49E-09 | 4.29E-16 | 1.02E-09 | 2.71E-05 |
| RF        | RF-MT0419  | 5.46E+01 | 4.80E-04 |        |          | 1.34E-12 | 1.39E-09 | 4.01E-16 | 2.55E-09 | 2.53E-05 |
| RF        | RF-MT0420  | 9.49E+00 | 8.35E-05 |        |          | 2.33E-13 | 2.41E-10 | 6.97E-17 | 4.44E-10 | 4.40E-06 |
| RF        | RF-MT0423  | 3.76E+01 | 5.37E-04 |        |          | 3.52E-13 | 1.96E-09 | 9.74E-16 | 9.45E-10 | 3.58E-05 |
| RF        | RF-MT0425  | 2.37E+00 | 2.09E-05 |        |          | 5.82E-14 | 6.03E-11 | 1.74E-17 | 1.11E-10 | 1.10E-06 |
| RF        | RF-MT-0438 | 2.35E+01 | 2.43E-04 |        |          | 1.40E-13 | 2.21E-09 | 3.06E-16 | 3.12E-10 | 2.76E-05 |
| RF        | RF-MT0440  | 9.68E+00 | 9.99E-05 |        |          | 4.07E-13 | 1.81E-08 | 1.14E-16 | 7.44E-10 | 1.70E-04 |
| RF        | RF-MT0442  | 3.59E+00 | 3.30E-05 |        |          | 3.25E-14 | 1.04E-08 | 3.83E-17 | 6.61E-11 | 9.71E-05 |
| RF        | RF-MT0443  | 7.49E+01 | 6.68E-04 |        |          | 1.05E-13 | 1.91E-08 | 5.97E-16 | 2.43E-10 | 1.95E-04 |
| RF        | RF-MT0444  | 3.83E+02 | 3.38E-03 |        |          | 4.89E-12 | 1.21E-08 | 2.82E-15 | 9.42E-09 | 2.00E-04 |
| RF        | RF-MT0480  | 9.48E+02 | 8.47E-03 |        |          | 6.59E-12 | 2.78E-07 | 7.64E-15 | 1.38E-08 | 2.81E-03 |
| RF        | RF-MT0488  | 1.26E+03 | 1.11E-02 |        |          | 3.24E-11 | 2.62E-06 | 9.28E-15 | 6.03E-08 | 2.45E-02 |
| RF        | RF-MT0490  | 9.00E+00 | 8.01E-05 |        |          | 9.68E-14 | 1.45E-09 | 7.08E-17 | 1.85E-10 | 1.56E-05 |
| RF        | RF-MT-0491 | 4.21E-01 | 3.74E-06 |        |          | 1.07E-14 | 2.28E-10 | 3.20E-18 | 2.06E-11 | 2.21E-06 |
| RF        | RF-MT0523A | 3.43E+02 | 3.03E-03 |        |          | 6.97E-12 | 3.64E-08 | 2.54E-15 | 1.35E-08 | 4.16E-04 |
| RF        | RF-MT0523B | 3.43E+02 | 3.03E-03 |        |          | 6.97E-12 | 3.64E-08 | 2.54E-15 | 1.35E-08 | 4.16E-04 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| RF RF-MT062D 3.48E-02 3.03E-03 6.97E-12 3.64E-08 2.54E-15 1.35E-08 4.16E-04 RF RF-MT062D 3.45E-02 3.03E-03 6.97E-12 3.64E-08 2.54E-15 1.35E-08 4.16E-04 RF RF-MT062D 3.45E-02 3.03E-03 6.97E-12 3.64E-08 2.54E-15 1.35E-08 4.16E-04 RF RF-MT063D 5.57E-02 4.99E-07 1.56E-17 1.56E-17 1.46E-12 4.16E-19 5.69E-14 2.65E-08 RF RF-MT063D 5.57E-02 4.99E-07 1.56E-17 1.56E-17 1.46E-12 4.16E-19 5.69E-14 2.65E-08 RF RF-MT063D 7.73E-02 7.55E-03 8.97E-11 1.38E-07 5.52E-15 1.66E-07 1.45E-03 RF RF-MT063D 7.73E-02 7.55E-03 8.97E-11 1.38E-07 5.52E-15 1.66E-07 1.45E-03 RF RF-MT053D 7.73E-02 7.55E-03 8.97E-11 1.38E-07 5.52E-15 1.66E-07 1.45E-03 RF RF-MT054D 1.07E-01 9.39E-06 2.01E-13 2.71E-10 7.82E-17 3.72E-10 5.72E-15 1.66E-07 1.45E-03 RF RF-MT054D 5.55E-01 4.55E-03 8.97E-11 1.38E-07 5.52E-15 1.66E-07 1.45E-03 RF RF-MT064D 2.55E-02 2.24E-03 4.46E-11 3.27E-10 1.78E-10 5.72E-10 4.56E-07 1.56E-07 1.45E-03 4.46E-11 5.37E-08 1.87E-15 1.19E-07 6.02E-04 RF RF-MT080D 2.55E-02 2.24E-03 4.46E-11 5.67E-08 1.87E-15 1.19E-07 6.02E-04 RF RF-MT080D 5.58E-00 4.22E-05 1.05E-13 1.42E-10 4.10E-17 2.81E-10 2.59E-06 RF RF-MT080D 5.58E-00 4.22E-06 1.05E-13 1.42E-10 4.10E-17 2.81E-10 2.59E-06 RF RF-MT080D 5.58E-00 4.22E-06 1.05E-13 1.42E-10 4.10E-17 2.81E-10 2.59E-06 RF RF-MT080D 5.43E-10 1.02E-04 3.05E-14 3.05E-10 1.07E-10 1.22E-06 RF RF-MT080D 5.43E-10 1.02E-04 3.05E-04 4.49E-11 3.70E-10 1.07E-10 1.22E-00 4.79E-05 RF RF-MT080D 5.43E-10 1.02E-04 3.05E-05 1.30E-11 3.05E-05 1.57E-10 1.22E-10 1.02E-00 RF RF-MT080D 5.43E-10 1.02E-04 3.05E-05 1.30E-11 3.05E-05 0.25E-15 2.29E-09 1.00E-04 4.49E-11 3.05E-05 0.25E-15 2.29E-09 1.00E-04 4.49E-11 3.05E-05 0.25E-15 2.29E-09 1.00E-04 8.00E-05 1.30E-11 3.10E-05 0.25E-15 2.20E-09 1.00E-05 1.30E-05 0.25E-15 0.20E-04 8.00E-05 1.30E-05 0.25E-15 0.20E-04 8.00E-05 1.30E-05 0.25E-15 0.20E-04 8.00E-05 0.30E-04 8.00E-05 0.30E-04 8.00E-05 0.30E-04 8.00E-05 0.30E-04 8.00E-05 | Site Code | WIDD ID    | Pu-241   | Pu-242   | Pu-244  | Sr-90 | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|--|-----------|------------|----------|----------|---------|-------|----------|----------|----------|----------|----------|
| RF RF-MT0623D 3.485-02 3.035-03 6.975-12 3.645-08 2.561-51 3.355-08 4.165-04 RF RF-MT0623E 3.455-02 4.995-07 1.655-17 1.446-12 4.165-19 5.656-04 4.65-04 RF RF-MT0631 5.675-02 4.995-07 1.655-17 1.446-12 4.165-19 5.656-04 4.65-04 RF RF-MT0632E 7.515-02 7.935-03 8.975-11 1.385-07 5.255-15 1.665-07 4.555-08 RF RF-MT0632E 7.515-02 7.935-03 8.975-11 1.385-07 5.255-15 1.665-07 4.555-08 RF RF-MT0632E 7.515-02 7.935-03 8.975-11 1.385-07 5.255-15 1.665-07 4.555-08 RF RF-MT0632F 7.515-02 7.935-03 8.975-11 1.385-07 5.255-15 1.665-07 4.555-03 RF RF-MT0632F 5.555-07 4.555-03 8.975-11 1.385-07 5.255-15 1.665-07 4.555-03 RF RF-MT0645 5.155-01 4.555-03 1.555-05 1.555-05 1.555-07 4.555-03 RF RF-MT0645 5.155-01 4.555-03 1.555-05 1.555-05 1.555-05 1.555-07 4.555-03 1.555-05 1.5 |           |            |          |          | 1 u-244 | 31-30 |          |          |          |          |          |
| RF         RF-MT0533E         3.45E-02         3.09E-03         6.97E-12         3.66E-08         2.56E-16         1.35E-08         4.16E-04           RF         RF-MT0531         5.67E-02         4.99E-07         1.65E-17         1.44E-12         4.16E-19         5.69E-14         2.63E-08           RF         RF-MT0532E         7.31E-02         7.69E-03         8.97E-11         1.36E-07         5.2E-15         1.64E-07         1.46E-03           RF         RF-MT0541         1.07E-01         3.99E-05         2.01E-13         2.7F-16         7.2E-17         0.47E-01         4.2E-17         1.46E-03           RF         RF-MT0864         5.15E-01         4.59E-05         1.50E-16         1.3E-11         3.7E-18         5.7F-01         4.2E-10         2.2E-10         3.99E-07           RF         RF-MT0800         2.5E-02         2.24E-03         4.46E-12         5.03E-03         1.8E-16         1.2E-04         1.6E-17         1.7E-17         2.2E-07         0.2E-04         4.8E-12         5.03E-03         1.2E-10         1.2E-04         1.4E-10         1.0E-17         2.2E-00         1.2E-04         3.6E-10         1.2E-10         1.2E-04         3.6E-07         2.2E-15         1.2E-06         7.2E-05         6.2E-10         1.2E-06 <td></td>   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0531         5.67E-02         4.99E-07         1.68E-17         1.48E-17         1.68E-17         5.62E-15         1.68E-07         1.68E-07         4.89T-11         1.38E-07         5.52E-15         1.64E-07         1.45E-03           RF         RF-MT0532F         7.31E-02         7.63E-03         8.97E-11         1.38E-07         5.52E-15         1.64E-07         1.45E-03           RF         RF-MT0641         1.07E-01         9.39E-05         2.01E-13         2.71E-10         7.22E-17         5.37E-10         4.94E-08           RF         RF-MT0645         5.15E-01         4.53E-06         1.50E-16         1.31E-11         3.78E-17         1.72E-17         3.29E-07           RF         RF-MT0600         2.55E-02         2.24E-03         4.48E-11         5.70E-01         1.15E-04         1.15E-04         1.15E-04         1.15E-04         1.15E-04         1.15E-04         1.05E-03         1.55E-06         1.50E-03         1.55E-04         4.48E-11         3.69E-01         1.15E-04         1.25E-04         3.61E-14         3.60E-01         2.55E-03         1.15E-14         3.60E-03         3.61E-14         3.60E-03         3.61E-14         3.60E-03         3.61E-04         3.45E-04         4.25E-04         4.25E-04         4.25E-04  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0532E         7.31E-02         7.69E-03         8.97E-11         1.38E-07         5.52E-15         1.64E-07         1.45E-03           RF         RR-MT0532F         7.31E-02         7.69E-03         8.97E-11         1.38E-07         5.52E-15         1.64E-07         1.45E-03           RF         RR-MT0541         1.07E-01         9.39E-05         2.01E-13         2.71E-10         7.82E-17         5.37E-10         4.94E-06           RF         RR-MT0645         5.15E-01         4.59E-03         4.67E-12         6.30E-08         1.50E-16         1.37E-18         5.77E-13         2.39E-07           RF         RR-MT08001         2.48E-02         2.24E-03         4.67E-12         6.30E-08         1.62E-16         1.25E-01         1.55E-01         1.50E-01         1.77E-16         9.35E-01         1.55E-06         1.05E-13         1.42E-10         1.77E-16         9.35E-01         1.55E-06         1.55E-08         1.67E-07         1.07E-07  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0532F         7,31E+02         2,68E-05         8,97E-11         1,38E-07         5,58E-15         1,58E-07         1,48E-03           RF         RF-MT0541         1,07E+01         9,39E-06         2,01E-13         2,77E-10         7,82E-17         5,77E-10         4,94E-06           RF         RF-MT0600         2,55E-02         2,24E-03         4,48E-11         5,57E-06         1,50E-16         1,57E-16         1,77E-15         1,77E-16         9,08E-07           RF         RF-MT0801         2,24E-02         2,4EE-03         4,48E-11         5,67E-08         1,77E-16         9,83E-07         6,02E-04           RF         RF-MT0803         5,58E+00         1,02E-04         3,61E-14         3,40E-10         1,77E-16         9,83E-05         2,58E-06         8,78E-06         1,77E-16         9,83E-16         1,22E-07         2,58E-06         8,78E-06         1,77E-16         9,83E-16         1,22E-09         2,58E-06         8,78E-06         1,77E-16         9,83E-16         1,22E-09         1,67E-06         8,78E-07         1,77E-16         9,85E-11         1,67E-06         8,78E-07         1,77E-16         9,85E-11         1,67E-06         8,78E-07         1,77E-16         9,85E-11         2,67E-07         1,67E-06         8,78E-07  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0541         1.07E+01         9.39E-05         2.01E-13         2.71E-10         7.82E-17         5.37E-10         4.94E-06           RF         RF-MT0545         5.15E-01         4.53E-06         1.50E-16         1.37E-15         3.79E-16         5.17E-13         3.29E-07           RF         RF-MT0800         2.55E-02         2.24E-03         4.48E-11         5.97E-09         1.82E-15         1.19E-07         6.02E-04           RF         RF-MT0801         2.48E-02         2.18E-03         4.67E-12         6.30E-09         1.82E-15         1.19E-07         2.61E-02         2.68E-09         1.26E-01         1.77E-16         9.83E-11         2.61E-02         2.68E-09         1.26E-04         3.61E-14         3.40E-10         1.77E-16         9.83E-11         6.21E-06           RF         RF-MT0807         1.03E-02         9.09E-04         4.88E-13         2.63E-09         7.58E-16         1.23E-00         4.79E-05           RF         RF-MT0803         3.66E-01         3.85E-05         1.34E-13         3.07E-10         4.88E-17         2.02E-09         4.79E-05           RF         RF-MT0803         3.60E-02         3.05E-03         1.17E-11         1.35E-06         7.32E-15         2.24E-03         1.27E-02 </td <td></td>   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0845         5.15E-01         4.53E-06         1.50E-16         1.31E-11         3.78E-18         5.17E-13         2.39E-07           RF         RF-MT0800         2.55E+02         2.24E-03         4.48E-11         5.87E-06         1.87E-15         1.15E-04         1.05E-04           RF         RF-MT0801         2.26E-00         4.67E-12         3.00E-09         1.82E-15         1.25E-06         1.05E-04           RF         RF-MT0806         9.43E-00         1.02E-04         3.61E-14         3.40E-10         1.77E-16         9.83E-10         6.21E-06           RF         RF-MT0807         1.03E-02         9.09E-04         4.88E-13         2.65E-00         7.58E-16         1.32E-10         2.76E-06           RF         RF-MT0806         1.46E-01         1.28E-04         4.49E-14         3.70E-10         1.07E-16         1.23E-10         6.75E-06           RF         RF-MT0823         6.60E-02         5.85E-03         1.17E-11         1.35E-09         2.54E-15         2.29E-09         1.06E-04           RF         RF-MT0823         4.60E-02         5.85E-03         1.17E-11         1.35E-09         2.54E-15         2.29E-09         1.0E-04           RF         RF-MT0832         2.96E-03  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0800         2.55E+02         2.24E-03         4.48E-11         5.87E-08         1.78E-15         1.19E-07         6.02E-04           RF         RF-MT0801         2.48E+02         2.48E-03         4.67E-12         6.30E-09         1.82E-15         1.25E-08         1.15E-04           RF         RF-MT0806         9.43E+00         1.02E-04         3.81E-14         3.40E-10         1.77E-16         9.83E-11         6.21E-06           RF         RF-MT0807         1.03E-02         0.09E-04         4.48E-13         2.08E-00         1.77E-16         9.83E-11         6.21E-06           RF         RF-MT0807         1.03E-02         0.09E-04         4.48E-13         2.08E-00         1.77E-16         9.83E-11         6.21E-06           RF         RF-MT0816         1.46E+01         1.28E-04         4.48E-13         2.08E-01         1.07E-12         2.08E-01         8.07E-02         2.88E-03         1.07E-12         4.88E-17         2.00E-01         8.00E-06         1.34E-13         2.07E-01         4.88E-17         2.00E-01         8.00E-03         1.17E-11         1.35E-06         7.32E-15         2.24E-08         1.27E-02         8.78E-07         8.88E-17         2.00E-04         8.00E-03         2.11E-11         3.0E-04         8.04E-03<  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0801         2.48E+02         2.18E+03         4.67E+12         6.30E+09         1.82E+15         1.25E+08         1.15E+04           RF         RF-MT08003         5.58E+00         4.92E+05         1.05E+13         3.40E+10         4.10E+71         2.18E+10         2.59E+06           RF         RF-MT08067         1.03E+02         9.09E+04         4.48E+13         2.6E+09         7.58E+16         1.32E+09         4.79E+05           RF         RF-MT0816         1.46E+01         1.28E+04         4.48E+13         2.6E+09         7.58E+16         1.32E+09         4.79E+05           RF         RF-MT0623         6.06E+00         5.88E+05         1.34E+13         7.0E+01         1.0E+01         8.0E+02           RF         RF-MT0827         3.46E+02         3.0E+03         1.17E+13         1.35E+05         7.32E+15         2.92E+09         1.60E+06           RF         RF-MT0831         9.70E+02         3.58E+02         3.0E+02         6.56E+11         1.35E+06         7.32E+15         2.92E+09         1.60E+04           RF         RF-MT0832         2.96E+03         2.96E+03         1.1E+11         8.4E+07         6.83E+16         1.0E+06         1.4E+11         8.4E+14         1.35E+06         1.2E+06  | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0803         5.58E+00         4.92E-05         1.05E-13         1.42E-10         4.10E-17         2.81E-10         2.59E-06           RF         RF-MT08006         9.43E+00         1.02E-04         3.61E-14         3.0E-10         1.77E-16         8.85E-11         6.21E-06           RF         RF-MT0807         1.03E-02         9.9E-04         4.88E-13         2.63E-09         1.07E-16         1.32E-01         6.75E-06           RF         RF-MT0823         6.60E+00         5.83E-05         1.34E-13         7.0TE-10         4.88E-17         2.0E-01         6.75E-06           RF         RF-MT0823         6.60E+00         3.85E-03         1.07E-12         8.71E-10         4.88E-17         2.9EE-01         6.75E-06           RF         RF-MT0831         9.70E+02         8.59E-03         1.17E-11         1.35E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0831         9.70E+02         8.59E-03         1.17E-11         3.35E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0831         8.64E-03         2.1EE-07         8.55E-07         3.0E-02         6.55E-14         3.5E-02         3.0E-02         3.0E-02         3.0E-02         3.0E-02   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0806         9.43E+00         1.02E-04         3.61E-14         3.61E-14         3.67-10         1.77E-16         9.83E-11         6.21E-06           RF         RF-MT0807         1.03E+02         9.09E-04         4.88E-13         2.63E-09         7.58E-61         1.23E-10         6.75E-06           RF         RF-MT0813         6.60E+00         5.83E-05         1.34E-13         3.70E-10         4.88E-17         2.60E-10         8.00E-03           RF         RF-MT0827         3.46E-02         3.06E-03         1.17E-11         1.35E-06         7.22E-16         2.26E-01         8.00E-03           RF         RF-MT0831         9.70E-02         8.59E-03         1.17E-11         1.36E-06         2.32E-14         1.35E-07         3.00E-02           RF         RF-MT0832         2.96E-03         2.81E-02         6.95E-11         1.16E-06         2.43E-04         1.36E-07         8.35E-16         4.0E-08         8.7E-17         3.57E-18         4.87E-13         2.25E-07           RF         RF-MT0855         4.86E-01         4.28E-06         1.14E-16         1.24E-10         3.57E-18         4.87E-13         2.25E-07         8.3E-11         6.92E-03         1.7E-16         9.7E-16         9.7E-16         9.7E-16         9.   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0807         1.03E+02         9.09E-04         4.88E-13         2.63E-09         7.58E-16         1.32E-09         4.79E-05           RF         RF-MT0816         1.46E-01         1.28E-04         4.49E-14         3.70E-10         1.07E-10         1.25E-10         6.05E-06           RF         RF-MT0827         3.46E+02         3.05E-03         1.07E-12         8.79E-09         2.54E-15         2.92E-09         1.60E-04           RF         RF-MT0827         3.46E+02         3.05E-03         1.17E-11         1.39E-06         7.32E-15         2.92E-09         1.60E-04           RF         RF-MT0831         9.70E-02         8.99E-03         1.17E-11         1.39E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0833         8.64E+02         8.43E-03         2.11E-11         8.45E-07         6.83E-15         4.10E-08         8.04E-03           RF         RF-MT0855         4.89E-01         4.28E-06         1.41E-16         1.24E-11         3.57E-18         4.87E-13         2.92E-07         2.55E-07           RF         RF-MT0857         9.41E-00         1.02E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0816         1.46E+01         1.28E-04         4.49E-14         3.70E-10         1.07E-16         1.23E-10         6.75E-06           RF         RF-MT-0823         6.60E+00         5.38E-05         1.07E-12         8.79E-02         2.54E-15         2.92E-01         8.00E-06           RF         RF-MT0831         9.70E+02         8.59E-03         1.17E-11         1.36E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0831         9.70E+02         8.59E-03         1.17E-11         1.36E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0833         8.64E+02         8.43E-03         2.11E-11         1.36E-06         2.43E-14         1.35E-07         3.00E-02           RF         RF-MT0855         4.86E-01         4.28E-06         1.41E-16         1.24E-11         3.67E-18         8.7EE-13         2.25E-07           RF         RF-MT0865         4.86E-01         1.02E-04         3.60E-14         3.30E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT0865         4.86E-01         1.02E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E-04         3.60E   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT-0823         6.60E+00         5.83E-05         1.34E-13         7.01E-10         4.88E-17         2.60E-10         8.00E-06           RF         RF-MT0827         3.46E+02         3.05E-03         1.07E-12         8.79E-09         2.54E-15         2.92E-09         1.00E-02           RF         RF-MT0831         9.70E+02         8.95E-03         1.17E-11         1.35E-06         6.32E-15         2.92E-09         1.00E-02           RF         RF-MT0832         2.96E+03         2.81E-02         6.95E-11         3.16E-06         6.32E-15         2.24E-07         3.00E-02           RF         RF-MT0833         8.64E+02         8.43E-03         2.11E-11         8.45E-07         6.89E-15         4.10E-08         8.04E-07           RF         RF-MT0857         9.41E+00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT0867         9.41E+00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-02           RF         RF-MT0161         3.49E-02         3.76E-03         1.34E-13         3.96E-03         3.76E-04         8.72E-13         3.96E-04         3.6E-09         3.76E-04  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0827         3.46E+02         3.05E-03         1.07E-12         8.79E-09         2.54E-15         2.92E-09         1.60E-04           RF         RF-MT0831         9.70E+02         8.99E-03         1.17E-11         1.35E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0832         2.98E-03         2.91E-02         6.95E-11         3.16E-07         3.00E-02           RF         RF-MT0833         8.64E+02         8.43E-03         2.11E-11         8.45E-07         6.93E-15         4.10E-08         8.04E-03           RF         RF-MT0855         4.86E-01         4.28E-06         1.41E-16         1.24E-11         3.57E-18         4.87E-13         2.25E-07           RF         RF-MT0H61         3.49E+02         3.78E-03         1.34E-12         1.26E-08         6.54E-15         3.64E-09         2.93E-04           RF         RF-MT0H61         3.49E+02         3.78E-03         1.34E-12         1.26E-08         6.54E-15         3.64E-09         2.93E-04           RF         RF-MT3011         3.25E-02         2.68E-03         7.63E-12         4.04E-08         2.33E-16         1.41E-08         4.46E-04           RF         RF-MT3011         2.12E-03         1.87E-02   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0831         9.70E+02         8.59E-03         1.17E-11         1.35E-06         7.32E-15         2.24E-08         1.27E-02           RF         RF-MT0832         2.96E+03         2.81E-02         6.95E-11         3.16E-06         2.43E-14         1.35E-07         3.00E-02           RF         RF-MT0853         8.64E+02         8.43E-03         2.11E-11         8.45E-04         4.96E-06         1.41E-16         1.24E-11         3.5TE-18         4.87E-13         2.25E-07           RF         RF-MT0857         9.41E-00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT06161         3.49E-02         3.78E-03         1.34E-12         1.26E-08         5.64E-09         2.30E-04           RF         RR-MT06161         3.71E-01         3.35E-04         8.72E-13         3.96E-08         3.04E-16         1.69E-09         3.06E-04           RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.04E-08         2.33E-15         1.41E-08         4.96E-04           RF         RF-MT3011         2.12E-03         1.37E-02         8.85E-11         7.55E-07         7.55E-07         7.65E-03           RF  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0832         2.96E+03         2.81E-02         6.95E-11         3.16E-06         2.43E-14         1.35E-07         3.00E-02           RF         RF-MT0833         8.64E+02         8.43E-03         2.11E-11         8.45E-07         6.83E-15         4.10E-08         8.04E-03         2.11E-11         8.45E-07         6.83E-15         4.00E-08         8.04E-03         2.21E-11         8.57E-18         4.07E-13         2.25E-07           RF         RF-MT0857         9.41E+00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.91E-01         6.91E-11         6.19E-06         8.06E-01         3.39E-10         1.76E-16         9.81E-11         6.91E-01         6.91E-01         6.91E-01         6.91E-01         6.91E-01         6.91E-01         6.91E-01         6.91E-03         7.03E-12         4.00E-08         3.04E-06         9.01E-16         6.91E-09         3.76E-04         8.78E-01         7.05E-12         4.04E-08         3.04E-09         2.30E-04         7.08E-01         7.03E-12         4.04E-08         2.33E-15         1.41E-08         4.6E-04         4.0E-04         7.08E-01         7.08E-01         7.08E-01         7.08E-01         7.08E-01         7.08E-02         7.08E-01         7.08E-01         7.08E-01  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0853         8.64E+02         8.43E-03         2.11E-11         8.45E-07         6.83E-15         4.10E-08         8.04E-03           RF         RF-MT0855         4.86E-01         4.28E-06         1.41E-16         1.24E-11         3.57E-18         4.87E-13         2.25E-07           RF         RF-MT0857         9.41E+00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT06161         3.49E+02         3.78E-03         1.34E-12         1.26E-08         6.54E-15         3.64E-09         2.30E-04           RF         RF-MT2116         3.71E+01         3.53E-04         8.72E-13         3.96E-08         3.04E-16         1.69E-09         2.30E-04           RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.04E-08         2.33E-15         1.41E-08         4.46E-04           RF         RF-MT3010         3.05E+02         1.87E-02         8.85E-11         7.55E-07         7.56E-04         7.68E-04         4.90E-11         1.41E-06         1.53E-13         1.25E-07         7.46E-03           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         1.09E-06         8.74E-14         2.95E   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0855         4.86E-01         4.28E-06         1.41E-16         1.24E-11         3.57E-18         4.87E-13         2.25E-07           RF         RF-MT0867         9.41E-00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT0616         3.49E+02         3.78E-03         1.34E-12         1.26E-08         6.54E-15         5.64E-09         2.30E-04           RF         RF-MT2116         3.71E+01         3.53E-04         8.72E-13         3.96E-08         3.04E-16         1.69E-09         3.76E-04           RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.04E-08         2.33E-15         1.41E-08         4.46E-04           RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT3011         2.12E+03         1.37E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT532D         1.29E+03         1.14E-02         4.58E-10         2.49E-06         8.76E-13         1.25E-07         1.56E-03           RF         RF-MT532D   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT0857         9.41E+00         1.02E-04         3.60E-14         3.39E-10         1.76E-16         9.81E-11         6.19E-06           RF         RF-MT0H61         3.49E+02         3.78E-03         1.34E-12         1.26E-08         6.54E-15         3.64E-09         2.30E-04           RF         RF-MT2116         3.71E+01         3.53E-04         8.72E-13         3.0E-04         3.0E-16         6.9E-03         3.0E-16         6.9E-03         3.0E-16         6.9E-03         3.0E-16         6.9E-04         3.0E-16         6.9E-04         4.9E-11         1.40E-08         2.33E-15         1.41E-08         4.46E-08         2.33E-15         1.41E-08         4.46E-03         7.48E-03         4.6E-04         RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03         RF         RF-MT420P         8.30E-03         1.11E-01         4.90E-11         1.41E-06         1.53E-13         1.25E-07         1.62E-07         7.48E-03         3.0E-02         RF         RF-MT532A         1.29E-06         1.25E-07         1.62E-07         7.48E-03         3.0E-02         1.58E-10         2.49E-06         8.36E-14         1.29E-06         1.14E-03         1.14E-03         1.25E-07         7.  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MTOH61         3.49E+02         3.78E-03         1.34E-12         1.26E-06         6.54E-15         3.64E-09         2.30E-04           RF         RF-MT2116         3.71E+01         3.53E-04         8.72E-13         3.96E-08         3.04E-16         1.69E-09         3.76E-04           RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.06E-08         2.33E-15         1.41E-08         4.46E-04           RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT420P         8.30E+03         1.11E-01         4.90E-11         1.41E-06         1.53E-13         1.25E-07         7.68E-03           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         2.25E-02           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.72E-16         1.64E-08         1.45E-04           RF         RF-MT532C   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT2116         3.71E+01         3.53E-04         8.72E-13         3.96E-08         3.04E-16         1.69E-09         3.76E-04           RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.04E-08         2.33E-15         1.41E-08         4.46E-04           RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT420P         8.30E+03         1.11E-01         4.90E-11         1.41E-06         1.55E-13         1.25E-07         1.50E-02           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         1.14E-02           RF         RF-MT532D         7.30E+01         1.26E-04         8.97E-12         1.38E-08         5.72E-16         1.45E-08           RF         RF-MT532D         7.30E+01         1.02E-04         8.97E-12         1.38E-09         5.7EE-16         1.64E-08         1.45E-04           RF         RF-TT0200         4.7ZE+01   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT3010         3.05E+02         2.68E-03         7.63E-12         4.04E-08         2.33E-15         1.41E-08         4.46E-04           RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT420P         8.30E+03         1.11E-01         4.90E-11         1.41E-06         1.53E-13         1.25E-07         1.50E-02           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532A         1.29E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         1.14E-00           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-MT5009         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.1E-18         1.45E-04           RF         RF-TT0000         4.72E+01  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT3011         2.12E+03         1.87E-02         8.85E-11         7.55E-07         1.56E-14         1.62E-07         7.48E-03           RF         RF-MT420P         8.30E+03         1.11E-01         4.90E-11         1.41E-06         1.53E-13         1.25E-07         1.60E-02           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         8.43E-14         1.29E-06         1.14E-02           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.33E-08         5.52E-16         1.45E-04           RF         RF-TT0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         7.41E-05           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0300         2.16E+01   | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT420P         8.30E+03         1.11E-01         4.90E-11         1.41E-06         1.53E-13         1.25E-07         1.60E-02           RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         1.14E-02           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-TT030D         1.03E-00         1.03E-03         7.97E-09         9.01E-18         1.45E-04           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.60E-03           RF         RF-TT0301         3.02E+02         2.66E-03   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT532A         1.29E+03         1.34E-02         1.58E-10         2.43E-07         9.71E-15         2.88E-07         2.55E-03           RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         1.14E-02           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-T0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         2.40E-05           RF         RF-T0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-T0200         4.72E+01         4.07E-04         7.85E-13         2.33E-09         9.673E-16         2.11E-09         4.25E-05           RF         RF-T0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT532B         5.77E+03         6.02E-02         7.08E-10         1.09E-06         4.36E-14         1.29E-06         1.14E-02           RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-TT0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         7.41E-05           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         9.71E-16         7.52E-10         2.40E-05           RF         RF-TT0209         9.16E+01         8.07E-04         7.85E-13         2.33E-09         6.73E-16         2.11E-09         4.26E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.61E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0302   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT532C         1.16E+04         1.21E-01         1.42E-09         2.19E-06         8.74E-14         2.59E-06         2.29E-02           RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-TT0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         7.41E-05           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0209         9.16E+01         8.07E-04         7.85E-13         2.33E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0302         1.18E+01         1.04E-04         1.59E-12         1.14E-07         5.52E-16         3.00E-09         1.07E-03           RF         RF-TT0303   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-MT532D         7.30E+01         7.62E-04         8.97E-12         1.38E-08         5.52E-16         1.64E-08         1.45E-04           RF         RF-TT0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         7.41E-05           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0299         9.16E+01         8.07E-04         7.85E-13         2.33E-09         6.73E-16         2.11E-09         4.25E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0302         1.18E+01         1.04E-04         1.12E-13         4.07E-08         9.64E-17         2.25E-10         3.80E-04           RF         RF-TT0303         7.51E+01         6.62E-04         1.59E-12         1.14E-07         5.52E-16         3.00E-09         1.07E-03           RF         RF-TT0310   | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0069         1.23E+00         1.08E-05         1.03E-13         7.97E-09         9.01E-18         1.85E-10         7.41E-05           RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0299         9.16E+01         8.07E-04         7.85E-13         2.33E-09         6.73E-16         2.11E-09         4.25E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.14E-07         5.52E-16         3.4E-09         1.30E-03           RF         RF-TT0302         1.18E+01         1.04E-04         1.12E-13         4.07E-08         9.64E-17         2.25E-10         3.80E-04           RF         RF-TT0310         2.75E+02         2.61E-03         2.27E-12         2.90E-08         2.56E-15         4.56E-09         3.49E-04           RF         RF-TT0317  | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0200         4.72E+01         4.31E-04         3.48E-13         1.38E-09         3.71E-16         7.52E-10         2.40E-05           RF         RF-TT0299         9.16E+01         8.07E-04         7.85E-13         2.33E-09         6.73E-16         2.11E-09         4.25E-05           RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0302         1.18E+01         1.04E-04         1.12E-13         4.07E-08         9.64E-17         2.25E-10         3.80E-04           RF         RF-TT0303         7.51E+01         6.62E-04         1.59E-12         1.14E-07         5.52E-16         3.00E-09         1.07E-03           RF         RF-TT0310         2.75E+02         2.61E-03         2.27E-12         2.90E-08         2.56E-15         4.56E-09         3.49E-04           RF         RF-TT0310         2.75E+02         2.61E-03         2.27E-12         2.90E-08         2.56E-15         4.56E-09         3.49E-04           RF         RF-TT0317   |           | RF-TT0069  | 1.23E+00 | 1.08E-05 |         |       | 1.03E-13 |          |          |          | 7.41E-05 |
| RF         RF-TT0300         2.19E+03         1.93E-02         1.58E-11         9.51E-07         1.91E-14         3.15E-08         9.40E-03           RF         RF-TT0301         3.02E+02         2.66E-03         2.18E-12         1.31E-07         2.63E-15         4.34E-09         1.30E-03           RF         RF-TT0302         1.18E+01         1.04E-04         1.12E-13         4.07E-08         9.64E-17         2.25E-10         3.80E-04           RF         RF-TT0303         7.51E+01         6.62E-04         1.59E-12         1.14E-07         5.52E-16         3.00E-09         1.07E-03           RF         RF-TT0310         2.75E+02         2.61E-03         2.27E-12         2.90E-08         2.56E-15         4.56E-09         3.49E-04           RF         RF-TT0310         2.75E+02         2.61E-03         2.27E-12         2.90E-08         2.56E-15         4.56E-09         3.49E-04           RF         RF-TT0312         5.79E+03         5.31E-02         2.34E-15         1.76E-10         5.08E-17         7.82E-12         3.21E-08           RF         RF-TT0320         1.98E+03         1.81E-02         1.46E-11         5.78E-08         1.56E-14         3.16E-08         1.01E-03           RF         RF-TT0330   | RF        | RF-TT0200  | 4.72E+01 | 4.31E-04 |         |       | 3.48E-13 | 1.38E-09 | 3.71E-16 | 7.52E-10 | 2.40E-05 |
| RF       RF-TT0301       3.02E+02       2.66E-03       2.18E-12       1.31E-07       2.63E-15       4.34E-09       1.30E-03         RF       RF-TT0302       1.18E+01       1.04E-04       1.12E-13       4.07E-08       9.64E-17       2.25E-10       3.80E-04         RF       RF-TT0303       7.51E+01       6.62E-04       1.59E-12       1.14E-07       5.52E-16       3.00E-09       1.07E-03         RF       RF-TT0310       2.75E+02       2.61E-03       2.27E-12       2.90E-08       2.56E-15       4.56E-09       3.49E-04         RF       RF-TT0312       5.79E+03       5.31E-02       2.69E-11       3.53E-07       5.38E-14       6.17E-08       4.72E-03         RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08 <td>RF</td> <td>RF-TT0299</td> <td>9.16E+01</td> <td>8.07E-04</td> <td></td> <td></td> <td>7.85E-13</td> <td>2.33E-09</td> <td>6.73E-16</td> <td>2.11E-09</td> <td>4.25E-05</td>   | RF        | RF-TT0299  | 9.16E+01 | 8.07E-04 |         |       | 7.85E-13 | 2.33E-09 | 6.73E-16 | 2.11E-09 | 4.25E-05 |
| RF       RF-TT0302       1.18E+01       1.04E-04       1.12E-13       4.07E-08       9.64E-17       2.25E-10       3.80E-04         RF       RF-TT0303       7.51E+01       6.62E-04       1.59E-12       1.14E-07       5.52E-16       3.00E-09       1.07E-03         RF       RF-TT0310       2.75E+02       2.61E-03       2.27E-12       2.90E-08       2.56E-15       4.56E-09       3.49E-04         RF       RF-TT0312       5.79E+03       5.31E-02       2.69E-11       3.53E-07       5.38E-14       6.17E-08       4.72E-03         RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT0334       2.78E+03       1.72E-02       4.79E-12       7.07E-08       2.04E-14       1.02E-08 <td>RF</td> <td>RF-TT0300</td> <td>2.19E+03</td> <td>1.93E-02</td> <td></td> <td></td> <td>1.58E-11</td> <td>9.51E-07</td> <td>1.91E-14</td> <td>3.15E-08</td> <td>9.40E-03</td>   | RF        | RF-TT0300  | 2.19E+03 | 1.93E-02 |         |       | 1.58E-11 | 9.51E-07 | 1.91E-14 | 3.15E-08 | 9.40E-03 |
| RF       RF-TT0303       7.51E+01       6.62E-04       1.59E-12       1.14E-07       5.52E-16       3.00E-09       1.07E-03         RF       RF-TT0310       2.75E+02       2.61E-03       2.27E-12       2.90E-08       2.56E-15       4.56E-09       3.49E-04         RF       RF-TT0312       5.79E+03       5.31E-02       2.69E-11       3.53E-07       5.38E-14       6.17E-08       4.72E-03         RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08 </td <td>RF</td> <td>RF-TT0301</td> <td>3.02E+02</td> <td>2.66E-03</td> <td></td> <td></td> <td>2.18E-12</td> <td>1.31E-07</td> <td>2.63E-15</td> <td>4.34E-09</td> <td>1.30E-03</td>   | RF        | RF-TT0301  | 3.02E+02 | 2.66E-03 |         |       | 2.18E-12 | 1.31E-07 | 2.63E-15 | 4.34E-09 | 1.30E-03 |
| RF       RF-TT0310       2.75E+02       2.61E-03       2.27E-12       2.90E-08       2.56E-15       4.56E-09       3.49E-04         RF       RF-TT0312       5.79E+03       5.31E-02       2.69E-11       3.53E-07       5.38E-14       6.17E-08       4.72E-03         RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08 </td <td>RF</td> <td>RF-TT0302</td> <td>1.18E+01</td> <td>1.04E-04</td> <td></td> <td></td> <td>1.12E-13</td> <td>4.07E-08</td> <td>9.64E-17</td> <td>2.25E-10</td> <td>3.80E-04</td>   | RF        | RF-TT0302  | 1.18E+01 | 1.04E-04 |         |       | 1.12E-13 | 4.07E-08 | 9.64E-17 | 2.25E-10 | 3.80E-04 |
| RF       RF-TT0312       5.79E+03       5.31E-02       2.69E-11       3.53E-07       5.38E-14       6.17E-08       4.72E-03         RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07 </td <td>RF</td> <td>RF-TT0303</td> <td>7.51E+01</td> <td>6.62E-04</td> <td></td> <td></td> <td>1.59E-12</td> <td>1.14E-07</td> <td>5.52E-16</td> <td>3.00E-09</td> <td>1.07E-03</td>   | RF        | RF-TT0303  | 7.51E+01 | 6.62E-04 |         |       | 1.59E-12 | 1.14E-07 | 5.52E-16 | 3.00E-09 | 1.07E-03 |
| RF       RF-TT0317       6.92E+00       6.10E-05       2.34E-15       1.76E-10       5.08E-17       7.82E-12       3.21E-06         RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07 </td <td>RF</td> <td>RF-TT0310</td> <td>2.75E+02</td> <td>2.61E-03</td> <td></td> <td></td> <td>2.27E-12</td> <td>2.90E-08</td> <td>2.56E-15</td> <td>4.56E-09</td> <td>3.49E-04</td>   | RF        | RF-TT0310  | 2.75E+02 | 2.61E-03 |         |       | 2.27E-12 | 2.90E-08 | 2.56E-15 | 4.56E-09 | 3.49E-04 |
| RF       RF-TT0320       1.98E+03       1.81E-02       1.46E-11       5.78E-08       1.56E-14       3.16E-08       1.01E-03         RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-05         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10 </td <td>RF</td> <td>RF-TT0312</td> <td>5.79E+03</td> <td>5.31E-02</td> <td></td> <td></td> <td>2.69E-11</td> <td>3.53E-07</td> <td>5.38E-14</td> <td>6.17E-08</td> <td>4.72E-03</td>   | RF        | RF-TT0312  | 5.79E+03 | 5.31E-02 |         |       | 2.69E-11 | 3.53E-07 | 5.38E-14 | 6.17E-08 | 4.72E-03 |
| RF       RF-TT0330       6.14E+02       6.82E-03       6.18E-12       1.82E-08       1.05E-14       1.31E-08       3.32E-04         RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-05         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05  | RF        | RF-TT0317  | 6.92E+00 | 6.10E-05 |         |       | 2.34E-15 | 1.76E-10 | 5.08E-17 | 7.82E-12 | 3.21E-06 |
| RF       RF-TT-0331       3.07E+03       3.58E-02       3.24E-11       6.39E-06       3.60E-14       6.86E-08       6.01E-02         RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-02         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05  | RF        | RF-TT0320  | 1.98E+03 | 1.81E-02 |         |       | 1.46E-11 | 5.78E-08 | 1.56E-14 | 3.16E-08 | 1.01E-03 |
| RF       RF-TT-0334       2.78E+03       2.45E-02       4.72E-12       7.07E-08       2.04E-14       1.02E-08       1.29E-03         RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-02         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05   | RF        | RF-TT0330  | 6.14E+02 | 6.82E-03 |         |       | 6.18E-12 | 1.82E-08 | 1.05E-14 | 1.31E-08 | 3.32E-04 |
| RF       RF-TT0335       1.83E+03       1.72E-02       4.09E-11       6.68E-06       1.71E-14       7.72E-08       6.23E-02         RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-02         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05  | RF        | RF-TT-0331 | 3.07E+03 | 3.58E-02 |         |       | 3.24E-11 | 6.39E-06 | 3.60E-14 | 6.86E-08 | 6.01E-02 |
| RF       RF-TT0336       1.50E+03       1.85E-02       5.80E-12       3.58E-07       1.67E-14       1.52E-08       3.75E-03         RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-02         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05  | RF        | RF-TT-0334 | 2.78E+03 | 2.45E-02 |         |       | 4.72E-12 | 7.07E-08 | 2.04E-14 | 1.02E-08 | 1.29E-03 |
| RF       RF-TT0337       1.58E+03       1.96E-02       7.63E-12       1.47E-06       2.18E-14       2.00E-08       1.41E-02         RF       RF-TT0338       6.79E+03       7.28E-02       9.29E-11       1.03E-06       8.19E-14       1.91E-07       1.13E-02         RF       RF-TT0340       1.62E+02       1.43E-03       4.71E-14       4.12E-09       1.19E-15       1.62E-10       7.51E-05  | RF        | RF-TT0335  | 1.83E+03 | 1.72E-02 |         |       | 4.09E-11 | 6.68E-06 | 1.71E-14 | 7.72E-08 | 6.23E-02 |
| RF     RF-TT0338     6.79E+03     7.28E-02     9.29E-11     1.03E-06     8.19E-14     1.91E-07     1.13E-02       RF     RF-TT0340     1.62E+02     1.43E-03     4.71E-14     4.12E-09     1.19E-15     1.62E-10     7.51E-05  | RF        | RF-TT0336  | 1.50E+03 | 1.85E-02 |         |       | 5.80E-12 | 3.58E-07 | 1.67E-14 | 1.52E-08 | 3.75E-03 |
| RF RF-TT0340 1.62E+02 1.43E-03 4.71E-14 4.12E-09 1.19E-15 1.62E-10 7.51E-05  | RF        | RF-TT0337  | 1.58E+03 | 1.96E-02 |         |       | 7.63E-12 | 1.47E-06 | 2.18E-14 | 2.00E-08 | 1.41E-02 |
|  | RF        | RF-TT0338  | 6.79E+03 | 7.28E-02 |         |       | 9.29E-11 | 1.03E-06 | 8.19E-14 | 1.91E-07 | 1.13E-02 |
| RF RF-TT0342 6.14E+02 5.74E-03 1.36E-11 3.35E-07 6.48E-15 2.53E-08 3.28E-03  | RF        | RF-TT0340  | 1.62E+02 | 1.43E-03 |         |       | 4.71E-14 | 4.12E-09 | 1.19E-15 | 1.62E-10 | 7.51E-05 |
|  | RF        | RF-TT0342  | 6.14E+02 | 5.74E-03 |         |       | 1.36E-11 | 3.35E-07 | 6.48E-15 | 2.53E-08 | 3.28E-03 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Sile Code   WIPP, ID  | Sita Coda | WIDD ID    | Pu-241   | Pu-242   | Pu-244  | Sr-90 | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|---|-----------|------------|----------|----------|---------|-------|----------|----------|----------|----------|----------|
| RF         RF-TT0388         7.71E-02         2.23E-11         3.85E-08         4.18E-08         5.07E-04           RF         RF-TT0370         1.64E-03         1.40E-02         1.40E-01         8.92E-07         1.40E-14         2.57E-03         RF         RF-TT0371         3.65E-01         3.15E-04         7.36E-13         2.34E-05         2.56E-16         1.40E-09         2.58E-16         1.40E-09         2.58E-16         1.40E-09         2.56E-11         7.77E-05         8.77E-03         1.77E-05         8.77E-03         1.77E-03  |           |            |          |          | 1 u-244 | 31-30 |          |          |          |          |          |
| RF         RF-TT0370         1.68E-02         1.40E-02         1.40E-03         2.58E-07         1.60E-04         2.58E-07         2.34E-09         2.58E-06         2.58E-07         1.67E-08         2.58E-05         2.58E-04         2.58E-05         2.58E-04         2.58E-05         5.58E-05         2.58E-144         7.57E-09         5.54E-17         7.77E-05         2.58E-07         1.58E-07         1.77E-05         2.58E-07         1.58E-07         1.77E-05         2.58E-07         1.58E-07         1.77E-05         2.58E-07         1.77E-05         2.58E-07         1.77E-05         2.77E-16         2.00E-01         5.58E-05         2.78E-12         1.00E-07         3.72E-01         1.50E-17         2.58E-03         1.58E-17         2.58E-03         1.58E-17         2.58E-17         2.48E-12         2.98E-07         3.48E-03         3.58E-01         2.0E-03         3.58E-01         3.0E-05         3.28E-03         3.58E-03         3   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0371         3.58E-01         3.55E-05         2.51E-14         7.57E-05         5.68E-05         2.51E-14         7.57E-05         5.68E-07         1.77E-05           RF         RF-TT0372         6.20E+00         5.55E-05         2.51E-14         7.57E-05         5.16E-17         5.77E-05         1.77E-05         RF         RF-TT0375A         2.05E+00         1.80E-05         7.29E-16         5.0E-11         1.50E-17         2.41E-12         9.49E-07           RF         RF-TT0375A         2.05E+00         1.80E-05         7.29E-16         5.0E-11         1.50E-17         2.41E-12         9.49E-07           RF         RF-TT0376         3.88E-02         3.42E-03         3.56E-12         1.00E-07         3.72E-15         7.07E-09         1.02E-03           RF         RF-TT0391         3.85E-01         1.62E-00         4.29E-12         5.5E-06         1.55E-10         1.40E-10         1.40E-10         1.29E-03           RF         RF-TT0391         3.85E-10         1.29E-04         3.86E-14         5.1E-04         3.86E-14         5.1E-04         4.9E-10         2.02E-16         1.05E-10         1.7E-06           RF         RF-TT0393         1.35E-03         1.19E-02         3.5E-04         3.6E-04         4.2E-1  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0372         8,20E+00         5,55E-05         2,51E-14         7,57E-09         5,14E-17         5,25E-19         1,77E-05           RF         RF-TT0374         1,50E+02         1,37E-03         2,74E-12         1,01E-08         1,15E-15         5,15E-09         1,29E-04           RF         RF-TT03756         2,05E+00         1,80E-05         7,29E-16         5,20E-11         1,50E-17         2,41E-12         9,49E-07           RF         RF-TT0376         3,68E-02         1,60E-03         3,56E-12         1,00E-07         7,22E-16         5,0E-01         1,50E-07         2,21E-07         2,41E-12         9,49E-07           RF         RF-TT0377         1,83E-02         1,62E-03         4,29E-12         6,25E-08         1,36E-07         6,29E-04           RF         RF-TT0391         3,85E-01         2,74E-04         2,17E-04         3,66E-10         3,2E-16         4,0E-16         9,0E-00         1,0E-04         2,21E-04         6,66B-14         9,18E-10         3,98E-07         6,27E-04         6,66B-14         9,18E-10         3,98E-07         6,27E-04         6,66B-14         9,18E-10         3,98E-07         6,27E-04         6,66B-14         9,18E-10         3,98E-07         6,20E-07         6,27E-04         6,66B-07 <td></td>   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0374         1.56E+02         1.37E-03         2.74E-12         1.01E-06         1.15E-15         5.16E-08         1.26E-04           RF         RF-TT0375A         2.05E+00         1.80E-05         7.28E-16         5.20E-11         1.50E-17         2.41E-12         9.49E-07           RF         RF-TT0376         3.68E+02         3.42E-03         3.56E-12         1.00E-07         3.72E-15         7.07E-09         1.02E-03           RF         RF-TT0377         1.38E-01         2.74E-04         2.21TE-13         7.88E-10         4.20E-16         4.90E-10         1.32E-01         1.32E-01         1.22E-04         3.86E-10         3.4E-10         4.29E-12         2.52E-00         1.35E-16         6.06E-10         9.17E-06         8.7E-10         4.02E-16         4.90E-10         1.35E-07         6.27E-04         3.66E-10         3.4E-10         9.17E-06         8.7E-10         4.27E-15         7.88E-14         4.92E-10         2.32E-16         1.02E-16         1.06E-10         9.17E-06         8.7E-170393         1.35E-07         6.27E-04         6.68E-14         9.18E-10         3.4E-16         1.66E-10         1.67E-05         8.7E-170392         2.51E-01         2.27E-04         6.68E-14         9.18E-10         3.2E-16         1.2E-10         8.2E-02 </td <td></td>                   |           |            |          |          |         |       |          |          |          |          |          |
| RF   RF-TT0375A   |           |            |          |          |         |       |          |          |          |          |          |
| RF-TT0375B  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0376         3.68E+02         3.42E-03         3.56E-12         1.00E-07         3.72E-15         7.07E-09         1.02E-03           RF         RF-TT0397         1.83E+02         1.27E-04         2.17E-13         7.38E-10         1.20E-09         5.29E-08         1.50E-09         5.29E-09         1.29E-01         2.35E-10         1.22E-10         1.24E-16         1.00E-10         9.07E-06         6.78E-07         6.78E-07 <td></td> |           |            |          |          |         |       |          |          |          |          |          |
| RF  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0391         3.83E-01         2.74E-04         2.17E-13         7.85E-10         4.02E-16         4.90E-10         1.43E-05           RF         RF-TT0393         1.35E+01         1.29E-04         3.36E-14         5.12E-10         2.12E-16         0.36E-10         9.07E-04           RF         RF-TT0398         2.51E+01         2.27E-04         6.68E-14         9.18E-10         3.94E-16         1.84E-10         1.67E-05           RF         RF-TT0398         2.51E+01         2.27E-04         6.68E-14         9.18E-10         3.94E-16         1.84E-10         1.67E-05           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         3.37E-06           RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-08         6.30E-15         6.57E-09         2.59E-04           RF         RF-TT0430         3.85E-01         3.40E-06         1.12E-16         9.81E-12         2.38E-13         3.79E-06           RF         RF-TT0440         2.54E-03         2.74E-02         1.57E-11         2.48E-07         3.44E-14         3.51E-03         3.10E-03         1.57E-11         2.48E-07         3.40E-14         2.55E-  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0392         1.38E-01         1.29E-04         3.86E-10         3.12E-10         1.06E-10         9.17E-06           RF         RF-TT0393         1.35E+03         1.96E-02         3.56E-10         3.94E-16         1.86E-10         1.07E-05           RF         RF-TT0399         9.56E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0414         2.99E+02         4.66E-03         2.44E-12         1.53E-06         8.06E-16         5.07E-09         2.59E-04           RF         RF-TT0430         3.85E-01         1.80E-06         1.12E-16         9.81E-12         2.83E-13         3.37E-13         1.79E-07           RF         RF-TT0431         8.89E-01         7.81E-04         8.06E-10         1.57E-11         4.76E-03         3.06E-16         9.67E-10         2.58E-00           RF         RF-TT0432         2.64E-03  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0393         1.35E+03         1.19E-02         3.56E-10         3.44E-08         9.93E-15         6.36E-07         6.27E-04           RF         RF-TT0398         2.51E-01         2.27E-04         6.68E-14         9.18E-10         3.94E-16         1.84E-10         1.87E-05           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-06         6.30E-13         3.65E-01         5.67E-09         2.58E-04           RF         RF-TT0431         8.89E+01         7.81E-04         8.60E-14         2.53E-08         6.76E-16         2.05E-01         2.58E-04           RF         RF-TT0431         8.89E+01         7.81E-04         8.60E-14         2.56E-08         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0441         1.59E-03         1.47E-03         1.57E-11         1.47E-00         3.05E-03         1.47E-11         4.75E-07         1.20E-14         2.53E-  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0398         2.51E+01         2.27E-04         6.68E-14         9.18E-10         3.94E-16         1.84E-10         1.67E-05           RF         RF-TT0409         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-06         6.30E-15         6.57E-09         2.59E-04           RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-06         6.00E-15         6.57E-09         2.59E-04           RF         RF-TT0430         3.85E-01         3.40E-06         1.12E-16         9.81E-12         2.93E-13         1.79E-07           RF         RF-TT0431         8.89E+01         7.78E-04         8.60E-14         2.56E-06         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0440         2.54E-02         2.62E-03         1.07E-11         2.45E-07         3.06E-16         2.05E-10         3.75E-09         5.51E-03           RF         RF-TT0441         1.59E+03         1.48E-17         1.58E-07         3.0E-15         1.59E-04         2.24E-02         1.22E-14         5.38E-07         2.18E-15         3.75E-0  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0409         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0414         2.99E+02         4.86E-03         2.44E-12         1.53E-06         6.05E-15         6.76E-09         2.59E-04           RF         RF-TT0430         3.85E-01         3.40E-06         1.12E-16         9.81E-12         2.83E-18         3.87E-13         1.79E-07           RF         RF-TT0431         8.89E-01         7.81E-04         8.60E-14         2.56E-06         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.28E-11         5.34E-07         1.29E-14         2.53E-08         5.2E-03           RF         RF-TT0441         1.59E+03         1.48E-12         5.86E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0443         5.65E+00   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0412         9.65E+00         1.51E-04         7.88E-14         4.92E-10         2.03E-16         2.12E-10         8.37E-06           RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-08         6.00E-15         6.57E-09         2.59E-04           RF         RF-TT0431         8.89E+01         7.81E-04         8.60E-14         2.56E-08         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0438         2.64E+03         2.74E-02         1.57E-11         2.48E-07         3.44E-14         3.51E-08         3.10E-03           RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         1.20E-14         2.35E-08         5.32E-03           RF         RF-TT0442         2.04E-02         1.87E-03         1.84E-19         5.88E-07         1.20E-14         2.35E-03         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.38E-11         1.47E-02           RF         RF-TT0439  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0414         2.99E+02         4.68E-03         2.44E-12         1.53E-08         6.30E-15         6.57E-09         2.59E-04           RF         RF-TT0430         3.85E-01         3.40E-06         1.12E-16         9.81E-12         2.83E-18         3.77E-13         1.79E-07           RF         RF-TT0431         8.89E-01         7.81E-04         8.60E-14         2.66E-08         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0433         2.64E-03         2.74E-02         1.57E-11         2.48E-07         3.46E-14         3.51E-08         3.10E-03           RF         RF-TT0440         2.54E-02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E-02         3.61E-03         1.84E-12         5.85E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0441         1.59E-00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-03           RF         RF-TT0480  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0431         3.85E-01         3.40E-06         1.12E-16         9.81E-12         2.83E-18         3.87E-31         1.79E-07           RF         RF-TT0431         8.89E+01         7.81E-04         8.60E-14         2.56E-08         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0431         2.46E-03         2.74E-02         1.57E-11         2.48E-07         3.40E-03         3.10E-03           RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         2.12E-14         2.53E-08         5.32E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         2.12E-14         2.53E-08         5.32E-03         5.75E-07         2.98E-15         3.75E-09         5.51E-03           RF         RF-TT0442         2.04E-02         1.72E-11         7.52E-07         2.19E-14         4.35E-09         6.14E-16         8.39E-11         1.47E-10           RF         RF-T0481         1.75E-01         7.37E-04         2.43E-14         5.13E-07         1.99E-14         3.60E-1  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0431         8.89E+01         7.81E-04         8.60E-14         2.56E-08         6.76E-16         2.05E-10         2.58E-04           RF         RF-TT0438         2.64E+03         2.74E-02         1.57E-11         2.48E-07         3.44E-14         3.51E-03         3.10E-03           RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0442         2.04E+02         1.87E-03         1.84E-12         5.88E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-11         1.87E-09         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-07         1.83E-11         1.47E-05           RF         RF-TT0448         1.56E-01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         3.88E-05           RF         RF-TT0481  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT04438         2.64E+03         2.74E-02         1.57E-11         2.48E-07         3.44E-14         3.51E-08         3.10E-03           RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         1.20E-15         2.53E-08         5.32E-03           RF         RF-TT0442         2.04E+02         1.87E-03         1.26E-11         5.34E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-05           RF         RF-TT049         8.36E+01         7.37E-04         2.43E-14         2.13E-06         6.14E-16         8.99E-11         3.86E-05           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         1.47E-10           RF         RF-TT0483         1.03E-01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0440         2.54E+02         2.62E-03         1.07E-11         4.75E-07         3.00E-15         1.95E-08         4.47E-03           RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         1.20E-14         2.53E-08         5.32E-03           RF         RF-TT0442         2.04E+02         1.87E-03         1.84E-12         5.88E-07         2.18E-15         2.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-05           RF         RF-TT0479         8.36E+01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         1.47E-05           RF         RF-TT0480         2.47E+03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0481         1.27E-00         1.57E-05         2.29E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0485         2.64E+00  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0441         1.59E+03         1.41E-02         1.25E-11         5.34E-07         1.20E-14         2.53E-08         5.32E-03           RF         RF-TT0442         2.04E+02         1.87E-03         1.88E-12         5.88E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-05           RF         RF-TT0479         8.36E+01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         1.47E-05           RF         RF-TT0480         2.47E+03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         2.37E-04         3.94E-13         1.31E-08         3.14E-16         2.44E-10         2.35E-04           RF         RF-TT0486  |           |            |          |          |         |       |          |          | _        |          |          |
| RF         RF-TT0442         2.04E+02         1.87E-03         1.84E-12         5.88E-07         2.18E-15         3.75E-09         5.51E-03           RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-05           RF         RF-TT0479         8.36E+01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         3.88E-05           RF         RF-TT0480         2.47E-03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         3.77E-04         3.94E-13         1.31E-08         1.49E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.33E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.33E-04           RF         RF-TT0487  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0443         5.65E+00         5.03E-05         7.95E-15         1.44E-09         4.50E-17         1.83E-11         1.47E-05           RF         RF-TT0479         8.36E+01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         3.88E-05           RF         RF-TT0480         2.47E+03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0481         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0483         1.03E+01         3.77E-04         3.94E-13         3.14E-16         7.46E-10         1.31E-04           RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-15         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01  |           |            |          | _        |         |       |          |          |          |          |          |
| RF         RF-TT0479         8.36E+01         7.37E-04         2.43E-14         2.13E-09         6.14E-16         8.39E-11         3.88E-05           RF         RF-TT0480         2.47E+03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         3.77E-04         3.94E-13         1.31E-08         3.14E-16         7.46E-10         1.31E-04           RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-15         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-10         1.4E-10         2.35E-04           RF         RF-TT0487         3.90E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.2E-04           RF         RF-TT0490  | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0480         2.47E+03         2.21E-02         1.72E-11         7.25E-07         1.99E-14         3.60E-08         7.33E-03           RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         3.77E-04         3.94E-13         1.31E-08         3.14E-16         7.46E-10         1.31E-04           RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-16         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-06         1.78E-09         3.95E-04           RF         RF-TT0490         1.20E+03  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0481         1.75E+00         1.56E-05         1.22E-14         5.13E-10         1.41E-17         2.55E-11         5.19E-06           RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         3.77E-04         3.94E-13         1.31E-08         3.14E-16         7.46E-10         1.31E-04           RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-15         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0492  |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0483         1.03E+01         9.07E-05         2.99E-15         1.86E-06         7.57E-17         1.03E-11         1.72E-02           RF         RF-TT0484         4.28E+01         3.77E-04         3.94E-13         1.31E-08         3.14E-16         7.46E-10         1.31E-04           RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-15         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492  |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0484       4.28E+01       3.77E-04       3.94E-13       1.31E-08       3.14E-16       7.46E-10       1.31E-04         RF       RF-TT0485       2.64E+00       2.32E-05       5.16E-15       3.01E-08       1.94E-17       1.43E-11       2.79E-04         RF       RF-TT0486       1.56E+01       1.38E-04       1.20E-13       2.49E-08       1.15E-16       2.44E-10       2.35E-04         RF       RF-TT0487       3.90E+01       3.71E-04       9.16E-13       4.17E-08       3.20E-16       1.78E-09       3.95E-04         RF       RF-TT0489       2.39E+01       2.10E-04       2.65E-13       1.15E-08       1.75E-16       5.11E-10       1.12E-04         RF       RF-TT0490       1.20E+03       1.07E-02       1.29E-11       1.94E-07       9.45E-15       2.47E-08       2.09E-03         RF       RF-TT0491       1.87E+01       1.66E-04       4.78E-13       1.01E-08       1.42E-16       9.15E-10       9.84E-05         RF       RF-TT0492       1.15E+01       1.01E-04       1.11E-13       2.93E-10       8.46E-17       2.12E-10       5.34E-06         RF       RF-TT0523A       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09 <td></td>   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0485         2.64E+00         2.32E-05         5.16E-15         3.01E-08         1.94E-17         1.43E-11         2.79E-04           RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523B  | -         |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0486         1.56E+01         1.38E-04         1.20E-13         2.49E-08         1.15E-16         2.44E-10         2.35E-04           RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523B         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523D   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0487         3.90E+01         3.71E-04         9.16E-13         4.17E-08         3.20E-16         1.78E-09         3.95E-04           RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523C         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523D   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0489         2.39E+01         2.10E-04         2.65E-13         1.15E-08         1.75E-16         5.11E-10         1.12E-04           RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523B         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523C         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523D         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523E   |           |            |          |          |         |       |          |          |          |          |          |
| RF         RF-TT0490         1.20E+03         1.07E-02         1.29E-11         1.94E-07         9.45E-15         2.47E-08         2.09E-03           RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523B         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523C         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523D         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523E         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523E <td></td> <td>1.12E-04</td>  |           |            |          |          |         |       |          |          |          |          | 1.12E-04 |
| RF         RF-TT0491         1.87E+01         1.66E-04         4.78E-13         1.01E-08         1.42E-16         9.15E-10         9.84E-05           RF         RF-TT0492         1.15E+01         1.01E-04         1.11E-13         2.93E-10         8.46E-17         2.12E-10         5.34E-06           RF         RF-TT0523A         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523B         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523C         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523D         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0523E         4.62E+01         4.08E-04         9.38E-13         4.91E-09         3.41E-16         1.82E-09         5.60E-05           RF         RF-TT0532B         7.50E+02         7.83E-03         9.21E-11         1.42E-07         5.67E-15         1.68E-07         1.49E-03           RF         RF-TT0532B <td></td>   |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0492       1.15E+01       1.01E-04       1.11E-13       2.93E-10       8.46E-17       2.12E-10       5.34E-06         RF       RF-TT0523A       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523B       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523C       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523D       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523B       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68  | RF        | RF-TT0491  | 1.87E+01 | 1.66E-04 |         |       | 4.78E-13 | 1.01E-08 | 1.42E-16 | 9.15E-10 | 9.84E-05 |
| RF       RF-TT0523A       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523B       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523C       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523D       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       7.50E-02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.6  |           | RF-TT0492  | 1.15E+01 | 1.01E-04 |         |       | 1.11E-13 | 2.93E-10 | 8.46E-17 | 2.12E-10 | 5.34E-06 |
| RF       RF-TT0523C       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523D       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0532A       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-0  | RF        | RF-TT0523A | 4.62E+01 | 4.08E-04 |         |       | 9.38E-13 | 4.91E-09 | 3.41E-16 | 1.82E-09 | 5.60E-05 |
| RF       RF-TT0523C       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523D       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0532A       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-0  |           | RF-TT0523B | 4.62E+01 | 4.08E-04 |         |       | 9.38E-13 | 4.91E-09 | 3.41E-16 | 1.82E-09 | 5.60E-05 |
| RF       RF-TT0523E       4.62E+01       4.08E-04       9.38E-13       4.91E-09       3.41E-16       1.82E-09       5.60E-05         RF       RF-TT0532A       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07<  |           | RF-TT0523C | 4.62E+01 | 4.08E-04 |         |       | 9.38E-13 | 4.91E-09 | 3.41E-16 | 1.82E-09 | 5.60E-05 |
| RF       RF-TT0532A       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01   | RF        | RF-TT0523D | 4.62E+01 | 4.08E-04 |         |       | 9.38E-13 | 4.91E-09 | 3.41E-16 | 1.82E-09 | 5.60E-05 |
| RF       RF-TT0532A       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01   |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0532B       7.50E+02       7.83E-03       9.21E-11       1.42E-07       5.67E-15       1.68E-07       1.49E-03         RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01  |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0541       4.63E+00       4.08E-05       1.34E-15       1.18E-10       3.40E-17       4.64E-12       2.15E-06         RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01   |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0545       1.03E+00       9.07E-06       2.99E-16       2.62E-11       7.56E-18       1.03E-12       4.78E-07         RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01   |           |            |          |          |         |       |          |          |          |          |          |
| RF       RF-TT0601       1.67E+02       1.55E-03       4.83E-12       7.48E-09       1.38E-15       9.06E-09       1.10E-04         RF       RF-TT0802       1.44E+04       1.27E-01       6.24E-11       3.67E-07       1.06E-13       1.69E-07       6.69E-03         RF       RF-TT0809       1.04E+03       9.16E-03       4.49E-12       2.64E-08       7.63E-15       1.22E-08       4.82E-04         RF       RF-TT0821       3.42E+03       3.22E-02       5.33E-11       1.75E-05       3.33E-14       1.03E-07       1.63E-01   |           |            |          |          |         |       | 2.99E-16 | 2.62E-11 |          |          |          |
| RF     RF-TT0802     1.44E+04     1.27E-01     6.24E-11     3.67E-07     1.06E-13     1.69E-07     6.69E-03       RF     RF-TT0809     1.04E+03     9.16E-03     4.49E-12     2.64E-08     7.63E-15     1.22E-08     4.82E-04       RF     RF-TT0821     3.42E+03     3.22E-02     5.33E-11     1.75E-05     3.33E-14     1.03E-07     1.63E-01   | RF        | RF-TT0601  |          |          |         |       |          |          |          |          |          |
| RF     RF-TT0809     1.04E+03     9.16E-03     4.49E-12     2.64E-08     7.63E-15     1.22E-08     4.82E-04       RF     RF-TT0821     3.42E+03     3.22E-02     5.33E-11     1.75E-05     3.33E-14     1.03E-07     1.63E-01   |           |            |          |          |         |       |          |          |          |          |          |
| RF RF-TT0821 3.42E+03 3.22E-02 5.33E-11 1.75E-05 3.33E-14 1.03E-07 1.63E-01   |           |            |          |          |         |       |          |          |          |          |          |
|   |           |            |          |          |         |       |          |          |          |          |          |
|   |           | RF-TT0822  | 2.72E+03 | 2.62E-02 |         |       | 7.16E-11 | 1.69E-05 | 2.22E-14 | 1.37E-07 | 1.57E-01 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID   | Pu-241   | Pu-242   | Pu-244  | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|-----------|-----------|----------|----------|---------|----------|----------|----------|----------|----------|----------|
| RF        | RF-TT0823 | 6.60E+00 | 5.83E-05 | 1 u 2++ | 01-30    | 1.34E-13 |          | 4.88E-17 | 2.60E-10 | 8.00E-06 |
| RF        | RF-TT0824 | 7.46E+03 | 6.67E-02 |         |          |          | 5.80E-06 | 5.82E-14 | 2.40E-07 | 5.55E-02 |
| RF        | RF-TT0825 | 5.33E+03 | 4.97E-02 |         |          |          | 7.99E-06 | 4.72E-14 | 3.18E-07 | 7.54E-02 |
| RF        | RF-TT0832 | 2.69E+03 | 2.56E-02 |         |          | 6.31E-11 | 2.87E-06 | 2.20E-14 | 1.23E-07 | 2.73E-02 |
| RF        | RF-TT0854 | 2.82E+00 | 2.48E-05 |         |          |          | 6.27E-08 | 2.07E-17 | 2.83E-12 | 5.82E-04 |
| RF        | RF-TT0886 | 5.14E-01 | 4.52E-06 |         |          |          | 1.31E-11 | 3.77E-18 | 5.15E-13 | 2.38E-07 |
| RF        | RF-TT2216 | 5.57E+01 | 5.29E-04 |         |          |          | 5.94E-08 | 4.56E-16 | 2.54E-09 | 5.64E-04 |
| RF        | RF-TT3010 | 3.70E+03 | 3.26E-02 |         |          | 9.26E-11 | 4.90E-07 | 2.82E-14 | 1.71E-07 | 5.41E-03 |
| RF        | RF-TT3011 |          | 7.83E-02 |         |          |          | 3.17E-06 | 6.53E-14 | 6.79E-07 | 3.14E-02 |
| RF        | RF-TT301U |          | 1.03E-02 |         |          |          | 4.66E-08 | 8.91E-15 | 1.59E-08 | 6.97E-04 |
| RF        | RF-TT310P |          | 1.94E-03 |         |          |          | 8.09E-09 | 2.80E-15 | 2.24E-09 | 1.44E-04 |
| RF        | RF-TT338S | 1.38E+01 | 1.22E-04 |         |          |          | 3.52E-10 | 1.02E-16 | 1.56E-11 | 6.42E-06 |
| RF        | RF-TT390P | 3.45E+01 | 2.26E-04 |         |          |          | 4.06E-09 | 4.55E-16 | 3.11E-10 | 4.62E-05 |
| RF        | RF-TT391P | 2.09E+03 | 1.49E-02 |         |          | 1.18E-11 | 4.28E-08 | 2.19E-14 | 2.67E-08 | 7.81E-04 |
| RF        | RF-TT392P | 4.15E+03 | 4.04E-02 |         |          | 1.21E-11 | 1.60E-07 | 6.64E-14 | 3.32E-08 | 2.87E-03 |
| RF        | RF-TT393R | 6.71E+02 | 6.14E-03 |         |          | 2.05E-12 | 4.50E-08 | 1.02E-14 | 5.28E-09 | 6.53E-04 |
| RF        | RF-TT394P | 4.83E+01 | 3.68E-04 |         |          |          | 2.39E-09 | 7.29E-16 | 3.60E-09 | 3.67E-05 |
| RF        | RF-TT395P | 6.46E+01 | 4.91E-04 |         |          |          | 3.19E-09 | 9.75E-16 | 4.81E-09 | 4.91E-05 |
| RF        | RF-TT396P | 1.61E+01 | 1.23E-04 |         |          |          | 7.99E-10 | 2.44E-16 | 1.20E-09 | 1.23E-05 |
| RF        | RF-TT398P | 2.59E+03 | 2.35E-02 |         |          |          | 9.50E-08 | 4.08E-14 | 1.90E-08 | 1.72E-03 |
| RF        | RF-TT398R | 5.05E+03 | 4.77E-02 |         |          | 7.11E-10 |          | 6.61E-14 | 1.34E-06 | 3.19E-03 |
| RF        | RF-TT411R | 3.57E+02 | 5.59E-03 |         |          |          | 1.82E-08 | 7.52E-15 | 7.84E-09 | 3.10E-04 |
| RF        | RF-TT429R | 6.23E+01 | 8.19E-04 |         |          |          | 3.36E-09 | 1.71E-15 | 7.50E-08 | 6.13E-05 |
| RF        | RF-TT433X | 2.47E+01 | 2.03E-04 |         |          |          | 9.32E-10 | 4.44E-16 | 6.27E-09 | 1.70E-05 |
| RF        | RF-TT436R | 4.77E+02 | 3.94E-03 |         |          |          | 1.35E-08 | 6.56E-15 | 2.09E-07 | 2.46E-04 |
| RF        | RF-TT454X | 2.81E+01 | 2.32E-04 |         |          | 6.42E-12 | 7.94E-10 | 3.86E-16 | 1.23E-08 | 1.45E-05 |
| RL        | RL-T101   | 3.97E+03 | 1.18E-02 |         | 2.34E+01 | 0.4ZL 1Z | 7.042 10 | 0.002 10 | 1.202 00 | 1.99E-10 |
| RL        | RL-T102   | 5.04E-02 | 1.50E-07 |         | 1.15E-01 |          |          |          |          | 1.15E-06 |
| RL        | RL-T103   |          | 4.91E-03 |         | 2.66E-01 |          |          |          |          | 11102 00 |
| RL        | RL-T104   | 7.22E-02 | 2.16E-07 |         | 4.01E-04 |          |          |          |          | 3.26E-08 |
| RL        | RL-T105   | 2.73E+01 | 8.12E-05 |         | 3.64E-02 |          |          |          | 9.41E-01 | 4.48E-05 |
| RL        | RL-T106   | 2.67E+01 | 7.95E-05 |         | 6.65E-04 |          |          |          | 01112 01 | 02 00    |
| RL        | RL-T107   | 7.33E+04 | 2.20E-01 |         | 3.46E+01 |          |          | 6.22E-05 | 4.16E-01 | 8.43E-01 |
| RL        | RL-T108   | 4.20E+01 | 1.25E-04 |         | 1.82E-02 |          |          |          |          | 2.93E-05 |
| RL        | RL-T109   | 5.57E+01 |          |         | 9.93E-03 |          |          |          | 1.09E-01 | 2.33E-02 |
| RL        | RL-T110   | 6.40E+03 |          |         | 4.84E+00 |          |          | 2.55E-03 | 1.14E-01 |          |
| RL        | RL-T112   | 8.47E+02 |          |         | 1.09E-01 |          |          | 2.69E-04 | 7.86E-03 | 7.36E-01 |
| RL        | RL-T113   | 2.79E+00 |          |         | 8.09E-03 |          |          |          |          |          |
| RL        | RL-T114   | 4.24E+02 |          |         | 4.75E-02 |          |          |          |          |          |
| RL        | RL-T115   | 6.24E+03 |          |         | 1.77E-01 |          |          | 4.46E-05 |          | 4.13E-01 |
| RL        | RL-T116   | 6.96E+02 |          |         | 9.75E+00 |          |          | 3.54E-02 | 4.71E+01 | 5.62E-02 |
| RL        | RL-T118   |          | 2.06E-03 |         | 3.72E-01 |          |          | 3.30E-03 | 2.48E-02 | 8.33E-01 |
| RL        | RL-T120   |          | 5.96E-04 |         | 6.59E-02 |          |          |          |          | 5.65E-07 |
| RL        | RL-T122   | 2.46E+01 | 7.33E-05 |         | 8.36E+00 |          |          | 1.11E-04 |          | 1.46E+00 |
| RL        | RL-T123   | 7.24E+01 | 2.16E-04 |         |          |          |          | 8.99E-06 |          | 5.97E-02 |
| RL        | RL-T125   |          | 7.49E-02 |         | 1.46E-03 |          |          | 2.58E-03 | 4.43E+00 |          |
| RL        | RL-T127   | 4.50E+03 |          |         | 8.46E-01 |          |          |          |          | 8.00E-02 |
| RL        | RL-T128   | 1.09E-04 | 3.27E-10 |         | 2.00E-02 |          |          |          |          |          |
| RL        | RL-T129   | 6.16E+01 | 1.84E-04 |         | 7.00E-02 |          |          |          |          | 7.68E-03 |
| RL        | RL-T130   | 1.31E-01 | 3.91E-07 |         | 7.79E-02 |          |          |          |          | 8.30E-05 |
|           | <u> </u>  |          |          |         |          |          |          |          |          |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID   | Pu-241   | Pu-242    | Pu-244  | Sr-90    | Th-229  | Th-230  | Th-232    | U-233 | U-234    |
|-----------|-----------|----------|-----------|---------|----------|---------|---------|-----------|-------|----------|
| RL        | RL-T131   | 2.96E+01 | 7.33E-05  | 1 u 2++ | 7.43E-04 | 111 223 | 111 230 | 111 202   | 0 200 | 8.23E-03 |
| RL        | RL-T132   | 1.27E+04 | 3.79E-02  |         | 1.15E-01 |         |         |           |       | 2.45E-01 |
| RL        | RL-T133   | 1.80E-01 | 6.22E-07  |         | 9.04E-05 |         |         |           |       | 2.102 01 |
| RL        | RL-T134   | 5.47E-01 | 1.63E-06  |         | 7.20E-01 |         |         |           |       |          |
| RL        | RL-T135   |          | 7.61E-06  |         | 8.98E-05 |         |         |           |       | 4.15E-03 |
| RL        | RL-T137   |          | 5.70E-02  |         | 7.23E-01 |         |         |           |       | 6.23E-03 |
| RL        | RL-T140   | 1.98E+04 | 8.83E-02  |         | 6.59E-01 |         |         |           |       | 2.62E+01 |
| RL        | RL-T143   | 3.05E+02 | 9.08E-04  |         | 1.03E-01 |         |         |           |       | 3.86E-02 |
| RL        | RL-T145   | 8.68E+02 |           |         | 1.20E+00 |         |         | 9.74E-05  |       | 8.96E-02 |
| RL        | RL-W407   |          | 4.23E-03  |         | 1.202100 |         |         | 3.7 4L 00 |       | 0.002 02 |
| RL        | RL-W408   | 6.80E-03 | 2.40E-08  |         |          |         |         |           |       |          |
| RL        | RL-W415   | 1.07E-01 | 3.79E-07  |         |          |         |         |           |       |          |
| RL        | RL-W418   | 3.99E-01 | 1.63E-06  |         |          |         |         |           |       |          |
| RL        | RL-W438   | 6.77E-03 | 2.39E-08  |         |          |         |         |           |       |          |
| RL        | RL-W444   | 2.02E+03 | 9.05E-03  |         |          |         |         |           |       |          |
| RL        | RL-W447   | 4.07E-01 | 1.44E-06  |         |          |         |         |           |       |          |
| RL        | RL-W448   | 3.01E-03 | 1.06E-08  |         |          |         |         |           |       |          |
| RL        | RL-W449   | 5.46E-02 | 3.03E-07  |         |          |         |         |           |       |          |
| RL        | RL-W450   | 4.54E-02 | 1.60E-07  |         |          |         |         |           |       |          |
| RL        | RL-W451   | 6.47E-03 | 2.28E-08  |         |          |         |         |           |       |          |
| RL        | RL-W452   | 2.46E-01 | 1.00E-06  |         |          |         |         |           |       |          |
| RL        | RL-W453   | 6.41E-02 | 2.88E-07  |         |          |         |         |           |       |          |
| RL        | RL-W454   | 8.96E-01 | 4.03E-06  |         |          |         |         |           |       |          |
| RL        | RL-W455   | 2.62E-01 | 1.07E-06  |         |          |         |         |           |       |          |
| RL        | RL-W456   | 3.23E+01 | 1.41E-04  |         |          |         |         |           |       |          |
| RL        | RL-W457   |          | 1.37E-05  |         |          |         |         |           |       |          |
| RL        | RL-W458   | 1.26E+01 | 8.48E-05  |         | 9.36E-05 |         |         |           |       |          |
| RL        | RL-W459   | 1.25E+02 | 7.18E-04  |         | 4.68E-03 |         |         |           |       |          |
| RL        | RL-W460   | 5.68E-01 | 2.55E-06  |         | 4.00L 03 |         |         |           |       |          |
| RL        | RL-W461   | 3.00L 01 | 2.00L 00  |         |          |         |         |           |       |          |
| RL        | RL-W462   | 1.86E-01 | 7.21E-07  |         |          |         |         |           |       |          |
| RL        | RL-W463   | 8.33E-01 | 3.75E-06  |         |          |         |         |           |       |          |
| RL        | RL-W464   | 3.84E-01 | 1.72E-06  |         |          |         |         |           |       |          |
| RL        | RL-W465   | 2.78E+00 |           |         |          |         |         |           |       |          |
| RL        | RL-W466   | 3.70E+01 |           |         |          |         |         |           |       |          |
| RL        | RL-W467   | 2.03E+00 |           |         |          |         |         |           |       |          |
| RL        | RL-W468   |          | 4.11E-08  |         |          |         |         |           |       |          |
| RL        | RL-W469   | 3.90E+00 |           |         |          |         |         |           |       |          |
| RL        | RL-W470   | 1.57E+02 |           |         | 2.01E-05 |         |         |           |       |          |
| RL        | RL-W474   |          | 6.67E-09  |         |          |         |         |           |       |          |
| RL        | RL-W476   | 7.08E+00 | 3.10E-05  |         | 8.03E-02 |         |         |           |       |          |
| RL        | RL-W480   | 1.21E+00 |           |         | 0.002 02 |         |         |           |       |          |
| RL        | RL-W481   | 1.90E+00 |           |         |          |         |         |           |       |          |
| RL        | RL-W482   | 2.52E+03 |           |         |          |         |         |           |       |          |
| RL        | RL-W483   | 1.88E+02 | 2.37E-08  |         |          |         |         |           |       |          |
| RL        | RL-W484   | 1.56E-01 | 8.43E-07  |         | 5.03E-01 |         |         |           |       |          |
| RL        | RL-W485   | 1.006-01 | J. 7JL-01 |         | J.UJL-01 |         |         |           |       |          |
| RL        | RL-W486   |          |           |         |          |         |         |           |       |          |
| RL        | RL-W487   | 1.45E+00 | 1 04F-05  |         |          |         |         |           |       |          |
| RL        | RL-W488   | 1.402100 | 1.072 00  |         | 1.31E-03 |         |         |           |       |          |
| \_        | 115 11700 |          |           |         | 1.016-00 |         |         |           |       | oxdot    |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP ID            | Pu-241               | Pu-242               | Pu-244    | Sr-90    | Th-229  | Th-230  | Th-232  | U-233 | U-234    |
|-----------|--------------------|----------------------|----------------------|-----------|----------|---------|---------|---------|-------|----------|
| RL        | RL-W489            | 2.34E+00             | 5.65E-06             | 1 U Z-1-1 | 1.10E-03 | 111 220 | 111 200 | 111 202 | 0 200 | 0 204    |
| RL        | RL-W490            | 2.0 12 100           | 0.002 00             |           | 6.56E-05 |         |         |         |       |          |
| RL        | RL-W491            | 8.50E-01             | 2.73E-06             |           | 9.13E-04 |         |         |         |       |          |
| RL        | RL-W492            | 4.89E-02             | 1.18E-07             |           | 9.13E-05 |         |         |         |       |          |
| RL        | RL-W493            | 4.03L 02             | 1.102 07             |           | 1.31E-03 |         |         |         |       |          |
| RL        | RL-W494            | 1.96E+03             | 2 28F-06             |           | 1.012 00 |         |         |         |       |          |
| RL        | RL-W495            | 3.57E+01             | 6.95E-10             |           |          |         |         |         |       |          |
| RL        | RL-W496            | 2.31E+02             | 3.24E-09             |           |          |         |         |         |       |          |
| RL        | RL-W497            | 6.05E+00             |                      |           |          |         |         |         |       |          |
| RL        | RL-W498            | 2.25E+01             | 9.18E-05             |           |          |         |         |         |       |          |
| RL        | RL-W499            |                      | 1.15E-09             |           |          |         |         |         |       |          |
| RL        | RL-W500            | 1.99E-02             | 4.63E-08             |           |          |         |         |         |       |          |
| RL        | RL-W501            | 2.69E+02             | 1.93E-03             |           |          |         |         |         |       |          |
| RL        | RL-W502            | 1.51E-01             | 6.16E-07             |           |          |         |         |         |       |          |
| RL        | RL-W503            | 8.88E+00             | 2.07E-05             |           | 1.12E-03 |         |         |         |       |          |
| RL        | RL-W503            | 1.45E+00             |                      |           | 1.12L-03 |         |         |         |       |          |
| RL        | RL-W505            | 1.45E+00<br>1.82E-01 | 6.28E-07             |           | 9.13E-05 |         |         |         |       |          |
| RL        | RL-W506            | 5.45E-02             | 2.06E-07             |           | 9.13L-03 |         |         |         |       |          |
| RL        | RL-W507            | 5.46E-03             | 2.23E-08             |           |          |         |         |         |       |          |
| RL        | RL-W508            | 9.68E+01             | 2.23E-06<br>2.37E-04 |           | 3.00E-03 |         |         |         |       |          |
| RL        | RL-W509            | 6.94E+02             | 3.09E-03             |           | 2.30E-02 |         |         |         |       |          |
|           | RL-W509<br>RL-W510 |                      | 1.92E-04             |           | 2.30E-02 |         |         |         |       |          |
| RL        |                    | 8.26E+01             |                      |           |          |         |         |         |       | 2.445.04 |
| RL        | RL-W511            | 4.50E+03             |                      |           |          |         |         |         |       | 3.44E-04 |
| RL        | RL-W512            | 2.30E+03             |                      |           |          |         |         |         |       |          |
| RL        | RL-W513            |                      | 4.37E+00             |           |          |         |         |         |       |          |
| RL        | RL-W514            | 2.13E-02             | 9.14E-08             |           |          |         |         |         |       |          |
| RL        | RL-W515            | 8.71E-01             | 3.56E-06             |           |          |         |         |         |       |          |
| RL        | RL-W516            | 1.21E+00             | 4.93E-06             |           |          |         |         |         |       |          |
| RL        | RL-W517            | 1.13E-08             | 4.38E-14             |           |          |         |         |         |       |          |
| RL        | RL-W518            | 2.43E+01             | 9.48E-05             |           |          |         |         |         |       |          |
| RL        | RL-W519            | 5.13E+00             | 2.22E-05             |           |          |         |         |         |       |          |
| RL        | RL-W520            | 6.58E-01             | 2.44E-06<br>4.55E-08 |           |          |         |         |         |       |          |
| RL        | RL-W521<br>RL-W522 | 1.12E-02             | 8.60E-04             |           |          |         |         |         |       |          |
| RL<br>RL  | RL-W523            |                      | 6.34E-04             |           |          |         |         |         |       |          |
| RL        |                    |                      |                      |           |          |         |         |         |       |          |
|           | RL-W524            | 1.53E+02             |                      |           |          |         |         |         |       |          |
| RL<br>RL  | RL-W525            | 1.20E+01             | 6.08E-05             |           | 2.48E-03 |         |         |         |       |          |
| RL        | RL-W526<br>RL-W527 | 8.73E+01             | 2.32E-04             |           | 2.40E-U3 |         |         |         |       |          |
|           |                    |                      | 3.73E-05             |           |          |         |         |         |       |          |
| RL        | RL-W528            | 1.56E+03<br>3.44E+00 |                      |           | 0.265.04 |         |         |         |       |          |
| RL        | RL-W529<br>RL-W530 |                      |                      |           | 9.36E-04 |         |         |         |       |          |
| RL<br>RL  |                    | 4.18E+01             | 9.69E-05             |           |          |         |         |         |       |          |
| RL        | RL-W531            | 1.11E+03             |                      |           |          |         |         |         |       |          |
|           | RL-W532            |                      | 3.29E-05             |           | 0.265.05 |         |         |         |       |          |
| RL        | RL-W533            |                      | 9.23E-06             |           | 9.36E-05 |         |         |         |       |          |
| RL        | RL-W534            | 2.25E-04             | 9.19E-10             |           |          |         |         |         |       |          |
| RL        | RL-W535            | 6.86E+02             | 6.78E-03             |           |          |         |         |         |       | 2.005.00 |
| RL        | RL-W536            | 1.57E+01             | 4.84E-05             |           |          |         |         |         |       | 3.20E-06 |
| RL        | RL-W537            | 4.39E+02             |                      |           |          |         |         |         |       | 2.72E-05 |
| RL        | RL-W538            | 2.86E-03             | 1.17E-08             |           |          |         |         |         |       |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIDD ID | Pu-241   | Pu-242   | Pu-244  | Sr-90     | Th-229  | Th-230  | Th-232  | U-233 | U-234    |
|-----------|---------|----------|----------|---------|-----------|---------|---------|---------|-------|----------|
| RL        | RL-W539 | 3.48E-01 | 1.29E-06 | 1 u-244 | 31-90     | 111-229 | 111-230 | 111-232 | 0-233 | 0-234    |
| RL        | RL-W540 | 3.34E+02 |          |         |           |         |         |         |       |          |
| RL        | RL-W541 | 9.80E-01 | 3.74E-06 |         |           |         |         |         |       |          |
| RL        | RL-W542 | 4.02E+01 | 1.32E-04 |         |           |         |         |         |       |          |
| RL        | RL-W543 | 1.35E-01 | 5.48E-07 |         |           |         |         |         |       |          |
| RL        | RL-W544 |          | 9.65E-06 |         |           |         |         |         |       |          |
| RL        | RL-W545 | 8.04E-01 | 3.28E-06 |         |           |         |         |         |       |          |
| RL        | RL-W546 | 3.52E-02 | 1.44E-07 |         |           |         |         |         |       |          |
| RL        | RL-W547 | 9.00E-04 | 3.67E-09 |         |           |         |         |         |       |          |
| RL        | RL-W548 | 8.06E-04 | 3.07E-09 |         |           |         |         |         |       |          |
| RL        | RL-W549 | 1.02E+02 |          |         |           |         |         |         |       |          |
| RL        | RL-W550 |          | 2.80E-03 |         |           |         |         |         |       | 1.92E-05 |
| RL        | RL-W551 | 4.09E+02 |          |         |           |         |         |         |       | 1.92L-03 |
| RL        | RL-W552 | 5.11E-01 | 1.96E-06 |         |           |         |         |         |       |          |
| RL        | RL-W553 | 6.46E-02 | 1.75E-07 |         | 1.03E-01  |         |         |         |       |          |
| RL        | RL-W554 | 6.81E-01 | 2.78E-06 |         | 1.03L-01  |         |         |         |       |          |
| RL        | RL-W555 | 3.14E-01 | 1.28E-06 |         |           |         |         |         |       |          |
| RL        | RL-W563 | 4.28E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W564 | 3.29E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W565 | 3.05E-01 | 1.19E-06 |         |           |         |         |         |       |          |
| RL        | RL-W566 | 4.34E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W567 | 3.68E+02 |          |         |           |         |         |         |       |          |
| RL        | RL-W568 | 7.60E+03 |          |         |           |         |         |         |       |          |
| RL        | RL-W569 | 5.83E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W570 | 2.87E-01 | 1.26E-06 |         | 8.07E-03  |         |         |         |       |          |
| RL        | RL-W571 | 1.16E+03 |          |         | 0.07 L-03 |         |         |         |       |          |
| RL        | RL-W572 | 1.04E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W573 |          | 1.51E-06 |         |           |         |         |         |       |          |
| RL        | RL-W574 | 5.76E+04 | 6.39E-06 |         |           |         |         |         |       |          |
| RL        | RL-W575 | 3.61E+05 |          |         |           |         |         |         |       |          |
| RL        | RL-W576 | 2.71E+04 |          |         |           |         |         |         |       |          |
| RL        | RL-W579 | 9.56E-02 | 2.79E-07 |         |           |         |         |         |       |          |
| RL        | RL-W580 | 0.002 02 | 202 0.   |         | 2.74E-04  |         |         |         |       |          |
| RL        | RL-W581 |          |          |         |           |         |         |         |       |          |
|           | RL-W582 | 1.55E-02 | 8.08E-08 |         | 9.36E-04  |         |         |         |       |          |
| RL        | RL-W583 | 9.02E-02 |          |         |           |         |         |         |       |          |
| RL        | RL-W584 | 4.53E-01 | 2.53E-06 |         | 1.87E-04  |         |         |         |       |          |
| RL        | RL-W585 |          | 1.53E-04 |         | 2.96E-06  |         |         |         |       |          |
| RL        | RL-W586 |          | 6.40E-09 |         |           |         |         |         |       |          |
| RL        | RL-W587 |          | 1.37E-07 |         |           |         |         |         |       |          |
| RL        | RL-W588 | 3.81E-01 | 2.13E-06 |         | 1.87E-04  |         |         |         |       |          |
| RL        | RL-W589 |          |          |         | 2.70E-05  |         |         |         |       |          |
| RL        | RL-W590 | 5.00E+01 | 1.04E-08 |         |           |         |         |         |       |          |
| RL        | RL-W591 | 3.02E+02 |          |         |           |         |         |         |       |          |
| RL        | RL-W592 |          | 2.80E-07 |         |           |         |         |         |       |          |
| RL        | RL-W593 |          |          |         |           |         |         |         |       |          |
| RL        | RL-W594 | 3.05E+02 | 1.02E-07 |         |           |         |         |         |       |          |
| RL        | RL-W595 | 3.02E+00 |          |         |           |         |         |         |       |          |
| RL        | RL-W596 | 9.07E-01 | 1.88E-10 |         |           |         |         |         |       |          |
| RL        | RL-W597 | 1.69E+03 |          |         |           |         |         |         |       |          |
| L         | !       |          |          |         |           |         |         |         |       |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIDD ID | Pu-241   | Pu-242    | Pu-244  | Sr-90    | Th-229  | Th-230  | Th-232  | U-233 | U-234 |
|-----------|---------|----------|-----------|---------|----------|---------|---------|---------|-------|-------|
| RL        | RL-W598 | 1.75E+03 | 4.35E-07  | 1 u-244 | 31-90    | 111-229 | 111-230 | 111-232 | 0-233 | 0-234 |
| RL        | RL-W599 | 1.01E+02 |           |         |          |         |         |         |       |       |
| RL        | RL-W600 | 3.56E-06 | 1.60E-11  |         |          |         |         |         |       |       |
| RL        | RL-W601 | 2.82E-02 | 7.64E-08  |         | 8.60E-05 |         |         |         |       |       |
| RL        | RL-W602 | 1.92E+01 | 7.48E-05  |         | 0.00L-03 |         |         |         |       |       |
| RL        | RL-W603 | 1.92E+01 |           |         |          |         |         |         |       |       |
| RL        | RL-W604 | 1.45E-01 | 8.34E-07  |         | 3.53E-04 |         |         |         |       |       |
| RL        | RL-W605 | 9.41E-02 | 2.55E-07  |         | 6.92E-04 |         |         |         |       |       |
| RL        | RL-W606 |          | 1.03E-07  |         | 3.37E-03 |         |         |         |       |       |
| RL        | RL-W607 | 2.45E-02 | 1.41E-07  |         | 3.12E-04 |         |         |         |       |       |
| RL        | RL-W608 | 3.76E-01 | 1.08E-05  |         | 8.38E-01 |         |         |         |       |       |
| RL        | RL-W610 | 9.98E+01 | 4.48E-04  |         | 0.30L-01 |         |         |         |       |       |
| RL        | RL-W612 | 1.70E-01 | 7.82E-07  |         | 8.18E-02 |         |         |         |       |       |
| RL        | RL-W615 | 1.70L-01 | 7.02L-07  |         | 0.10L-02 |         |         |         |       |       |
| RL        | RL-W622 | 3.93E-03 | 1.77E-08  |         |          |         |         |         |       |       |
| RL        | RL-W625 | 2.13E-01 | 1.7712-00 |         |          |         |         |         |       |       |
| RL        | RL-W626 | 3.72E+00 | 8 36F-05  |         |          |         |         |         |       |       |
| RL        | RL-W627 | 4.42E-02 | 0.30L-03  |         | 8.62E-04 |         |         |         |       |       |
| RL        | RL-W628 | 1.19E-02 | 5.09E-08  |         | 0.026 04 |         |         |         |       |       |
| RL        | RL-W629 | 9.24E-04 | 3.42E-09  |         |          |         |         |         |       |       |
| RL        | RL-W630 | 1.00E+01 | 1.18E-04  |         |          |         |         |         |       |       |
| RL        | RL-W631 | 2.25E-01 | 6.09E-07  |         | 2.06E-08 |         |         |         |       |       |
| RL        | RL-W632 | 7.48E+01 | 8.32E-04  |         | 2.01E-03 |         |         |         |       |       |
| RL        | RL-W633 | 9.21E-02 | 0.32L-04  |         | 2.01L-03 |         |         |         |       |       |
| RL        | RL-W634 | 3.21L 0Z |           |         |          |         |         |         |       |       |
| RL        | RL-W635 | 9.30E+02 | 2 20F-02  |         | 1.75E+00 |         |         |         |       |       |
| RL        | RL-W636 | 5.65E+00 | 5.65E-05  |         | 1.86E-01 |         |         |         |       |       |
| RL        | RL-W637 | 2.03E-02 | 0.002 00  |         | 7.58E-03 |         |         |         |       |       |
| RL        | RL-W638 | 7.56E-01 | 4.36E-06  |         | 6.08E-01 |         |         |         |       |       |
| RL        | RL-W639 | 5.29E-02 | 2.16E-07  |         | 0.002 01 |         |         |         |       |       |
| RL        | RL-W640 | 1.70E+00 | 7.27E-06  |         |          |         |         |         |       |       |
| RL        | RL-W641 | 2.73E+01 | 1.81E-04  |         | 9.28E-01 |         |         |         |       |       |
| RL        | RL-W642 | 1.18E-02 | 7.73E-08  |         | 1.92E+00 |         |         |         |       |       |
| RL        | RL-W643 | 8.40E+00 | 5.58E-05  |         | 2.85E-01 |         |         |         |       |       |
|           | RL-W644 |          |           |         | 2.02E+00 |         |         |         |       |       |
| RL        | RL-W645 | 4.59E-01 | 1.43E-06  |         |          |         |         |         |       |       |
| RL        | RL-W646 | 2.23E-01 |           |         | 5.65E-02 |         |         |         |       |       |
| RL        | RL-W647 | 7.47E-01 |           |         |          |         |         |         |       |       |
| RL        | RL-W648 | 2.39E-02 |           |         | 4.50E-02 |         |         |         |       |       |
| RL        | RL-W649 | 8.78E-02 |           |         | 1.66E-01 |         |         |         |       |       |
| RL        | RL-W653 |          | 1.30E-08  |         |          |         |         |         |       |       |
| RL        | RL-W654 | 1.76E-02 | 7.18E-08  |         |          |         |         |         |       |       |
| RL        | RL-W655 | 4.70E+03 |           |         |          |         |         |         |       |       |
| RL        | RL-W656 | 2.24E+04 |           |         |          |         |         |         |       |       |
| RL        | RL-W657 | 9.91E+03 | 5.50E-06  |         |          |         |         |         |       |       |
| RL        | RL-W659 | 1.12E+03 |           |         |          |         |         |         |       |       |
| RL        | RL-W660 | 6.39E+03 |           |         |          |         |         |         |       |       |
| RL        | RL-W661 |          | 3.41E-09  |         |          |         |         |         |       |       |
| RL        | RL-W662 | 1.59E+00 | 9.34E-10  |         |          |         |         |         |       |       |
| RL        | RL-W665 | 3.16E+04 | 1.17E-05  |         |          |         |         |         |       |       |
| -         |         |          |           |         |          |         |         |         |       |       |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIDD ID  | Pu-241   | Pu-242               | Pu-244 | Sr-90     | Th-229  | Th-230  | Th-232  | U-233 | U-234 |
|-----------|----------|----------|----------------------|--------|-----------|---------|---------|---------|-------|-------|
| RL        | RL-W666  | 4.57E+02 | 4.00E-08             | Fu-244 | 31-90     | 111-229 | 111-230 | 111-232 | 0-233 | 0-234 |
| RL        | RL-W668  | 7.72E-01 | 4.00L 00             |        | 3.39E+01  |         |         |         |       |       |
| RL        | RL-W669  |          | 4.19E-05             |        | 2.14E-01  |         |         |         |       |       |
| RL        | RL-W670  | 2.00E-02 | 4.19L-03             |        | 8.33E-01  |         |         |         |       |       |
| RL        | RL-W671  | 6.57E+01 |                      |        | 0.33L-01  |         |         |         |       |       |
| RL        | RL-W672  | 4.46E+02 |                      |        |           |         |         |         |       |       |
| RL        | RL-W673  | 4.40E+02 |                      |        |           |         |         |         |       |       |
| RL        | RL-W674  | 2.26E+00 | 2 605 05             |        |           |         |         |         |       |       |
| RL        | RL-W675  | 7.31E+00 |                      |        |           |         |         |         |       |       |
| RL        | RL-W676  | 2.17E-01 | 2.43E-06             |        | 3.24E-02  |         |         |         |       |       |
| RL        | RL-W677  | 5.23E+02 |                      |        | 1.76E+00  |         |         |         |       |       |
| RL        | RL-W678  | 4.10E+00 |                      |        | 1.700     |         |         |         |       |       |
| RL        | RL-W679  | 1.05E+01 | 1.11E-04             |        | 4.72E-04  |         |         |         |       |       |
| RL        | RL-W680  | 4.51E-03 | 1.11E-04<br>1.30E-07 |        | 2.94E-03  |         |         |         |       |       |
| RL        | RL-W681  | 3.75E-03 | 2.30E-08             |        | 1.46E-04  |         |         |         |       |       |
| RL        | RL-W685  | 4.91E+00 | 2.21E-05             |        | 1.40L-04  |         |         |         |       |       |
| RL        | RL-W689  | 6.56E-03 | Z.Z IL-00            |        | 6.83E-03  |         |         |         |       |       |
| RL        | RL-W690  | 5.95E+00 | 2.74E-05             |        | 1.58E-02  |         |         |         |       |       |
| RL        | RL-W691  | 1.38E-01 | 6.34E-07             |        | 7.88E-03  |         |         |         |       |       |
| RL        | RL-W692  |          | 2.51E-05             |        | 1.58E-02  |         |         |         |       |       |
| RL        | RL-W693  | 6.74E+00 |                      |        | 2.36E-02  |         |         |         |       |       |
| RL        | RL-W694  | 7.09E+01 | 3.10E-03<br>3.25E-04 |        | 8.67E-02  |         |         |         |       |       |
| RL        | RL-W695  | 7.032+01 | 3.23L-04             |        | 0.07 L-02 |         |         |         |       |       |
| RL        | RL-W696  | 9.73E-02 |                      |        |           |         |         |         |       |       |
| RL        | RL-W697  | 3.73L-02 | 2.87E-07             |        |           |         |         |         |       |       |
| RL        | RL-W698  |          | 2.07 L-07            |        |           |         |         |         |       |       |
| RL        | RL-W699  | 4.09E-01 | 4.45E-10             |        |           |         |         |         |       |       |
| RL        | RL-W700  | 1.06E-01 | 4.43E-10<br>4.31E-07 |        |           |         |         |         |       |       |
| RL        | RL-W702  | 1.00L 01 | 4.51L 01             |        |           |         |         |         |       |       |
| RL        | RL-W703  |          |                      |        | 8.09E-03  |         |         |         |       |       |
| RL        | RL-W704  | 2.10E+00 | 1 40F-05             |        | 7.14E-02  |         |         |         |       |       |
| RL        | RL-W705  | 2.58E-02 | 1.13E-07             |        | 2.10E-03  |         |         |         |       |       |
| RL        | RL-W706  | 2.002 02 | 1.102 07             |        | 5.82E-02  |         |         |         |       |       |
| RL        | RL-W707  | 9.17E-01 | 4.02E-06             |        | 3.07E-04  |         |         |         |       |       |
|           | RL-W708  |          | 6.09E-07             |        | 4.85E-05  |         |         |         |       |       |
| RL        | RL-W709  |          | 2.10E-04             |        | 8.09E-04  |         |         |         |       |       |
| RL        | RL-W710  |          | 1.26E-08             |        | 1.62E-05  |         |         |         |       |       |
| RL        | RL-W711  | 8.94E-01 | 3.91E-06             |        | 8.09E-05  |         |         |         |       |       |
| RL        | RL-W712  | 1.16E+00 |                      |        | 1.94E-04  |         |         |         |       |       |
| RL        | RL-W713  | 1.00E+00 |                      |        | 8.09E-04  |         |         |         |       |       |
| RL        | RL-W714  |          |                      |        |           |         |         |         |       |       |
| RL        | RL-W715  | 1.65E-02 | 7.40E-08             |        |           |         |         |         |       |       |
| RL        | RL-W716  | 1.72E-01 | 7.71E-07             |        |           |         |         |         |       |       |
| RL        | RL-W717  | 4.29E-02 | 1.93E-07             |        |           |         |         |         |       |       |
| RL        | RL-W718  | 7.56E-03 | 3.40E-08             |        |           |         |         |         |       |       |
| RL        | RL-W719  | 3.42E-02 | 1.53E-07             |        |           |         |         |         |       |       |
| RL        | RL-W720  | 2.11E-01 | 9.49E-07             |        |           |         |         |         |       |       |
| RL        | RL-W721  | 1.43E-01 | 6.43E-07             |        |           |         |         |         |       |       |
| RL        | RL-W723  | 4.74E-01 | 2.18E-06             |        | 9.48E-05  |         |         |         |       |       |
| RL        | RL-W724  | 3.15E+00 | 1.45E-05             |        | 8.62E-03  |         |         |         |       |       |
|           | <u> </u> |          |                      |        |           |         |         |         |       |       |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIDD ID                         | Pu-241               | Pu-242               | Pu-244  | Sr-90                | Th-229               | Th-230               | Th-232               | U-233                | U-234                |
|-----------|---------------------------------|----------------------|----------------------|---------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| RL        | RL-W725                         | 9.95E-01             | 4.58E-06             | 1 u-244 | 6.47E-04             | 111-223              | 111-230              | 111-232              | 0-233                | 0-234                |
| RL        | RL-W726                         | 7.84E-01             | 3.61E-06             |         | 1.04E-03             |                      |                      |                      |                      |                      |
| RL        | RL-W727                         | 4.81E+00             | 2.22E-05             |         | 9.86E-03             |                      |                      |                      |                      |                      |
| RL        | RL-W728                         | 4.38E+00             | 2.02E-05             |         | 8.99E-03             |                      |                      |                      |                      |                      |
|           | _                               |                      |                      |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W729                         | 2.02E+00             | 9.32E-06             |         | 1.36E-03             |                      |                      |                      |                      |                      |
| RL        | RL-W730                         |                      |                      |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W731                         |                      |                      |         | 1.33E+00             |                      |                      |                      |                      |                      |
| RL        | RL-W732                         | 5.17E+02             | 1.18E-03             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W733                         | 7.87E+00             | 3.06E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W734                         | 2.34E+01             | 9.88E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W735                         | 1.82E+01             | 7.98E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W736                         | 5.57E-03             | 7.01E-08             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W737                         | 1.57E+01             | 7.28E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W738                         | 5.69E+01             | 2.59E-04             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W739                         | 5.17E+00             | 3.03E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W740                         | 2.61E+02             | 1.27E-03             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W741                         | 1.96E+02             | 4.84E-03             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W742                         | 1.68E+01             | 5.60E-05             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W743                         | 1.002101             | 0.002 00             |         | 3.58E-02             |                      |                      |                      |                      |                      |
| RL        | RL-W744                         |                      |                      |         | 0.002 02             |                      |                      |                      |                      |                      |
| RL        | RL-W745                         | 5.77E-02             | 2.36E-07             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W746                         | 2.22E-01             | 9.07E-07             |         |                      |                      |                      |                      |                      |                      |
| RL<br>RL  | RL-W747<br>RL-W748              | 6.02E-01<br>4.53E+03 | 2.46E-06<br>4.62E-06 |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W749                         | 4.84E+00             |                      |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W750                         | 6.41E+03             | 7.61E-06             |         |                      |                      |                      |                      |                      |                      |
| RL        | RL-W751                         | 5.78E+03             | 6.86E-06             |         |                      |                      |                      |                      |                      |                      |
| RL<br>RL  | RL-W752<br>RL-W753              | 2.51E+03<br>3.38E+04 | 2.99E-06<br>4.02E-05 |         |                      |                      |                      |                      |                      |                      |
| RP        | RP-W754                         | 3.12E+02             | 6.15E-03             |         | 6.29E+03             |                      |                      |                      | 2.72E-07             | 3.53E-01             |
| RP        | RP-W755                         | 2.33E+02             | 1.56E-03             |         | 4.63E+04             |                      |                      |                      | 1.09E-05             |                      |
| SA        | SA-T001                         |                      |                      |         |                      |                      | 1.69E-10             |                      | 6.21E-10             |                      |
| SA<br>SA  | SA-W134<br>SA-W134M             | 5.94E+00<br>7.72E-01 | 6.77E-08<br>8.79E-09 |         | 6.51E+01<br>8.46E+00 | 9.85E-07<br>1.28E-07 | 7.49E-06<br>9.73E-07 | 8.03E-18<br>1.04E-18 | 2.10E-03<br>2.73E-04 |                      |
| SR        | T001-221F-HET                   | 1.70E+04             | 0.790-09             |         | 0.40E+00             | 2.54E-11             | 2.70E-04             | 6.56E-14             | 7.15E-08             |                      |
| SR        | T001-221H-HET                   | 3.37E+04             |                      |         |                      | 5.04E-11             | 5.35E-04             | 1.30E-13             | 1.42E-07             | 9.77E+00             |
| SR        | T001-235F-HET                   | 1.60E+03             |                      |         |                      | 2.39E-12             | 2.54E-05             | 6.18E-15             | 6.73E-09             | 4.63E-01             |
| SR        | T001-772F-HET                   | 1.27E+04             |                      |         |                      | 1.90E-11             |                      | 4.91E-14             | 5.35E-08             | 3.68E+00             |
| SR<br>SR  | T001-773A-CLAS<br>T001-773A-HET | 1.96E+02<br>1.76E+03 |                      |         |                      |                      |                      |                      |                      | 5.67E-02<br>5.09E-01 |
| SR        | W006-773A-VIT                   | 1.702100             |                      |         |                      | 6.12E-17             | 2.702-00             | 5.7 JL-10            | 1.95E-13             |                      |
| SR        | W026-221F-HET                   | 6.79E+03             |                      |         |                      | 1.02E-11             | 1.08E-04             | 2.63E-14             | 2.86E-08             | 1.97E+00             |
| SR        | W026-221H-HET                   | 5.08E+03             |                      |         |                      | 7.60E-12             |                      | 1.96E-14             |                      | 1.47E+00             |
| SR<br>SR  | W026-235F-HET<br>W026-772F-HET  | 7.91E+01<br>2.16E+01 |                      |         |                      | 1.18E-13<br>3.23E-14 | 1.26E-06<br>3.43E-07 | 3.06E-16<br>8.34E-17 | 3.33E-10<br>9.09E-11 |                      |
| SR        | W026-772F-HET<br>W026-773A-HET  | 3.51E+02             |                      |         |                      |                      | 5.58E-06             | 1.36E-15             | 1.48E-09             |                      |
| SR        | W027-221F-HET                   | 1.11E+04             |                      |         |                      |                      | 2.50E-03             | 6.37E-13             | 8.68E-07             | 1.78E+01             |
| SR        | W027-221H-HET                   | 4.85E+03             |                      |         |                      |                      | 1.09E-03             | 2.79E-13             | 3.80E-07             | 7.80E+00             |
| SR<br>SR  | W027-235F-HET                   | 1.46E+03             |                      |         |                      |                      | 3.29E-04<br>5.98E-04 | 8.38E-14             | 1.14E-07             | 2.35E+00             |
| SR        | W027-772F-HET<br>W027-773A-HET  | 2.65E+03<br>3.96E+03 |                      |         |                      |                      | 5.98E-04<br>8.92E-04 | 1.52E-13<br>2.27E-13 | 2.08E-07<br>3.10E-07 | 4.26E+00<br>6.36E+00 |
| SR        | W027-999-HET                    | 3.22E+03             |                      |         |                      |                      | 7.27E-04             | 1.85E-13             | 2.52E-07             | 5.18E+00             |
| SR        | W053-773A-VIT                   |                      |                      |         |                      |                      |                      |                      |                      |                      |
| WP        | WP-INW169.001                   | 3.99E+01             | 3.86E-04             |         |                      | 7.22E-17             |                      |                      | 2.31E-12             | 1.65E-04             |
| WP<br>WP  | WP-INW198.001<br>WP-INW211.001  | 6.55E+01<br>7.42E+03 | 5.71E-04<br>7.41E-02 |         |                      | 1.26E-08<br>6.76E-07 | 7.25E-10<br>1.68E-08 |                      | 1.34E-04<br>7.20E-03 |                      |
| WP        | WP-INW216.001-A                 | 4.10E+03             |                      |         |                      | 1.78E-06             |                      | 9.66E-16             | 9.50E-03             | 2.77E-01             |
| WP        | WP-INW216.001-B                 | 1.11E+03             | 1.15E-02             |         |                      | 1.18E-06             | 4.97E-07             | 2.61E-16             | 6.29E-03             | 2.76E-02             |
| WP        | WP-INW218.001-A                 | 7.42E+02             |                      |         |                      | 2.69E-07             |                      |                      | 2.87E-03             |                      |
| WP        | WP-INW218.001-B                 | 2.10E+01             | 2.03E-04             |         |                      | 3.27E-17             | 3.36E-07             | 1.14E-18             | 1.05E-12             | 3.74E-02             |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID              | Pu-241   | Pu-242   | Pu-244   | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234    |
|-----------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| WP        | WP-INW222.001        | 1.78E+02 | 1.54E-03 |          |          | 3.66E-16 | 5.13E-09 | 1.12E-17 | 1.17E-11 | 5.74E-04 |
| WP        | WP-INW243.001        | 3.60E+02 | 3.34E-03 |          |          | 2.40E-07 | 1.54E-08 | 9.50E-17 | 1.28E-03 | 8.68E-04 |
| WP        | WP-INW247.001R1      | 6.24E+02 | 4.79E-03 |          |          | 7.23E-07 | 7.93E-10 | 1.85E-16 | 3.85E-03 | 7.76E-05 |
| WP        | WP-INW276.001        | 5.29E+01 | 4.59E-04 |          |          | 9.43E-15 | 3.78E-10 | 1.14E-16 | 6.10E-11 | 1.67E-05 |
| WP        | WP-INW276.002        | 7.94E+01 | 6.82E-04 |          |          | 1.99E-07 | 6.32E-10 | 1.71E-16 | 4.24E-04 | 2.65E-05 |
| WP        | WP-INW276.003        | 3.34E+03 | 2.52E-02 |          |          | 5.47E-06 | 4.77E-09 | 9.98E-16 | 2.91E-02 | 4.49E-04 |
| WP        | WP-INW276.004        | 7.05E+02 | 5.32E-03 |          |          | 4.86E-06 | 1.92E-09 | 2.11E-16 | 2.59E-02 | 1.46E-04 |
| WP        | WP-INW296.001-A      | 1.81E+02 | 1.45E-03 |          |          | 4.12E-15 | 5.07E-10 | 5.27E-17 | 6.60E-11 | 3.74E-05 |
| WP        | WP-INW296.001-B      | 6.52E+02 | 5.33E-03 |          |          | 1.04E-06 | 5.80E-09 | 1.86E-16 | 5.54E-03 | 3.55E-04 |
| WP        | WP-LA-TA-55-19.01-A  | 6.48E+00 | 2.09E-05 |          |          | 5.15E-14 | 2.41E-05 | 1.48E-18 | 5.50E-10 | 2.64E-03 |
| WP        | WP-LA-TA-55-19.01-B  | 6.44E+02 | 1.61E-01 |          |          | 2.30E-12 | 1.57E-06 | 1.53E-16 | 2.46E-08 | 8.72E-02 |
| WP        | WP-LA-TA-55-43.01    | 5.77E+00 | 3.36E-04 |          |          | 8.25E-14 | 8.69E-07 | 2.62E-06 | 4.41E-10 | 2.65E-02 |
| WP        | WP-RF001.01          | 6.49E+02 | 8.35E-03 |          |          | 6.06E-05 | 1.22E-06 | 1.55E-14 | 4.31E-02 | 9.33E-03 |
| WP        | WP-RF002.01-A        | 1.43E+03 | 1.01E-02 |          |          | 7.06E-06 | 7.95E-07 | 1.93E-15 | 1.51E-02 | 1.78E-02 |
| WP        | WP-RF002.01-B        | 8.99E-01 | 9.33E-06 |          |          | 2.96E-16 | 4.34E-12 | 2.08E-18 | 1.90E-12 | 1.92E-07 |
| WP        | WP-RF003.01          | 2.36E+04 | 1.62E-01 |          |          | 3.81E-06 | 2.75E-07 | 3.69E-14 | 8.13E-03 | 8.34E-03 |
| WP        | WP-RF004.01          | 1.35E+01 | 8.28E-05 |          |          | 2.53E-14 | 4.54E-09 | 1.37E-17 | 1.37E-10 | 1.27E-04 |
| WP        | WP-RF005.01          | 9.40E+03 | 6.73E-02 |          |          | 1.46E-11 | 3.28E-08 | 1.25E-14 | 9.70E-08 | 1.81E-03 |
| WP        | WP-RF005.02          | 4.82E+03 | 3.96E-02 |          |          | 1.55E-11 | 2.70E-08 | 7.37E-15 | 1.06E-07 | 1.21E-03 |
| WP        | WP-RF006.01          | 1.22E+04 | 2.24E-01 |          |          | 6.55E-10 | 3.27E-06 | 9.71E-13 | 7.41E-07 | 2.56E-02 |
| WP        | WP-RF008.01          | 8.05E+03 | 6.07E-02 |          |          | 1.65E-11 | 2.35E-08 | 6.34E-15 | 8.95E-08 | 1.26E-03 |
| WP        | WP-RF009.01          | 9.25E+04 | 9.34E-01 |          |          | 1.10E-09 | 4.78E-07 | 1.34E-13 | 6.10E-06 | 2.07E-02 |
| WP        | WP-RF010.01          | 2.85E+02 | 1.88E-03 |          |          | 6.20E-13 | 3.18E-08 | 3.22E-16 | 2.72E-09 | 7.31E-04 |
| WP        | WP-RF029.01-A        | 6.53E+01 | 3.92E-04 |          |          | 2.27E-13 | 2.61E-08 | 3.63E-17 | 1.22E-09 | 7.30E-04 |
| WP        | WP-RF029.01-B        | 5.17E+01 | 3.10E-04 |          |          | 3.53E-12 | 8.08E-08 | 2.87E-17 | 1.88E-08 | 2.25E-03 |
| WP        | WP-RF118.01          | 1.70E+05 | 1.10E+00 |          |          | 6.82E-11 | 5.52E-06 | 7.60E-14 | 5.03E-07 | 2.15E-01 |
| WP        | WP-RLMPDT.001        | 3.73E+01 | 2.07E-04 |          |          | 3.98E-17 | 9.17E-12 | 1.41E-18 | 1.28E-12 | 2.04E-06 |
| WP        | WP-RLNPDT.002        | 4.28E+02 | 2.07E-03 |          |          | 3.99E-15 | 3.51E-10 | 5.70E-17 | 6.42E-11 | 3.89E-05 |
| WP        | WP-SR2001.001.00     | 2.33E+01 | 1.37E-04 |          |          | 6.41E-17 | 4.04E-11 | 3.98E-18 | 1.04E-12 | 4.48E-06 |
| WP        | WP-SR-W027-221F-HETA | 1.05E+02 | 1.82E-03 |          |          | 1.07E-05 | 1.67E-06 | 4.02E-18 | 1.14E-01 | 1.86E-01 |
| Total:    |                      | 1.96E+06 | 1.22E+01 | 1.24E-06 | 5.61E+04 | 1.36E+00 | 9.53E-02 | 2.50E+00 | 1.10E+03 | 1.97E+02 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| AE         AE-T001         3.41E-03         7.25E-05         6.02E-02           AE         AE-T003         1.43E-04         8.77E-06         3.15E-03           AW         AW-N026.82  | Site Code | WIPP ID      | U-235    | U-236    | U-238    |
|--|-----------|--------------|----------|----------|----------|
| AE         AE-T003         1.43E-04         8.77E-06         3.15E-03           AW         AW-N026.82         Control         Control<   |           | _            |          |          |          |
| AW         AW-N027.531         2.49E-05         6.99E-09         9.25E-08           AW         AW-N027.531         2.49E-05         6.99E-09         9.25E-08           AW         AW-N033.1325         7.96E-05         2.23E-08         2.95E-07           AW         AW-W049         5.43E-10         SEC           BC         BCLCH-MT01         SEC         2.98E-04         1.20E-07           ET         ET-C1-B55         7.97E-10         1.20E-08           ET         ET-C1-D139         1.21E-10         1.81E-09         4.17E-15           ET         ET-C2-SEFOR         1.89E-09         1.91E-08           IN         IN-BN-510         8.38E-02         2.78E-03         2.15E-02           IN         IN-GEM-01              IN         IN-GEM-02         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-003         5.23E-01         2.71E-01         1.11E-01           IN         IN-ICP-004         1.08E-01         5.06E-02         2.28E+00           IN         IN-W157.144         3.58E-06         2.38E-05         2.19E-11           IN         IN-W164.153         1.06E-08         7.01E-08   |           |              |          |          |          |
| AW AW-T033.1325 7.96E-05 2.23E-08 2.95E-07 AW AW-W049 5.43E-10   | AW        | AW-N026.82   |          |          |          |
| AW         AW-T033.1325         7.96E-05         2.23E-08         2.95E-07           AW         AW-W049         5.43E-10   | AW        |              | 2.49E-05 | 6.99E-09 | 9.25E-08 |
| AW         AW-W049         5.43E-10         BC           BC         BCLCH-MT01         C         2.60E-05         2.98E-04         1.20E-07           ET         BT-1002         2.60E-05         2.98E-04         1.20E-07           ET         ET-C1-B55         7.97E-10         1.20E-08         4.17E-15           ET         ET-C1-D139         1.21E-10         1.81E-09         4.17E-15           ET         ET-C2-SEFOR         1.89E-09         1.91E-08         1.1           IN         IN-BN-510         8.38E-02         2.78E-03         2.15E-02           IN         IN-GEM-01   | AW        | AW-T033.1325 |          |          |          |
| BT         BT-T002         2.60E-05         2.98E-04         1.20E-07           ET         ET-C1-B55         7.97E-10         1.20E-08         1.20E-08           ET         ET-C1-D139         1.21E-10         1.81E-09         4.17E-15           ET         ET-C2-SEFOR         1.89E-09         1.91E-08         1.91E-08           IN         IN-BN-510         8.38E-02         2.78E-03         2.15E-02           IN         IN-GEM-01         1.00E-00         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-002         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-003         5.23E-01         2.71E-01         1.11E-01           IN         IN-ICP-004         1.08E-01         5.60E-02         2.28E+00           IN         IN-ICP-005         7.19E-01         3.73E-01         1.52E+01           IN         IN-W157.144         3.58E-06         2.38E-05         2.19E-11           IN         IN-W164.153         1.06E-08         7.01E-08         6.60E-14           IN         IN-W177.156         2.17E-08         3.87E-09         2.85E-14           IN         IN-W179.158         1.26E-09         1.91E-08         2.13E-13  |           | AW-W049      |          |          |          |
| BT         BT-T002         2.60E-05         2.98E-04         1.20E-07           ET         ET-C1-B55         7.97E-10         1.20E-08         1.20E-08           ET         ET-C1-D139         1.21E-10         1.81E-09         4.17E-15           ET         ET-C2-SEFOR         1.89E-09         1.91E-08         1.91E-08           IN         IN-BN-510         8.38E-02         2.78E-03         2.15E-02           IN         IN-GEM-01         1.00E-00         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-002         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-003         5.23E-01         2.71E-01         1.11E-01           IN         IN-ICP-004         1.08E-01         5.60E-02         2.28E+00           IN         IN-ICP-005         7.19E-01         3.73E-01         1.52E+01           IN         IN-W157.144         3.58E-06         2.38E-05         2.19E-11           IN         IN-W164.153         1.06E-08         7.01E-08         6.60E-14           IN         IN-W177.156         2.17E-08         3.87E-09         2.85E-14           IN         IN-W179.158         1.26E-09         1.91E-08         2.13E-13  |           |              |          |          |          |
| ET         ET-C1-B55         7.97E-10         1.20E-08           ET         ET-C1-D139         1.21E-10         1.81E-09         4.17E-15           ET         ET-C2-SEFOR         1.89E-09         1.91E-08         1.91E-02           IN         IN-BN-510         8.38E-02         2.78E-03         2.15E-02           IN         IN-GEM-01         1.08E-01         1.08E-01         2.62E+01           IN         IN-ICP-002         1.24E+00         6.44E-01         2.62E+01           IN         IN-ICP-003         5.23E-01         2.71E-01         1.11E-01           IN         IN-ICP-004         1.08E-01         5.60E-02         2.28E+00           IN         IN-ICP-005         7.19E-01         3.73E-01         1.52E+01           IN         IN-W163.1007         1.11E-06         7.38E-06         8.28E-12           IN         IN-W164.153         1.06E-08         7.01E-08         8.0E-12           IN         IN-W174.154         2.30E-08         1.33E-06         1.05E-11           IN         IN-W179.158         1.26E-09         1.91E-08         2.13E-13           IN         IN-W181.162         3.49E-07         2.38E-06         8.73E-13           IN   |           |              | 2.60E-05 | 2.98E-04 | 1.20E-07 |
| ET   | ET        | ET-C1-B55    | 7.97E-10 | 1.20E-08 |          |
| ET   |           |              |          | 1.81E-09 | 4.17E-15 |
| IN   |           | ET-C2-SEFOR  |          |          |          |
| IN   |           |              |          |          | 2.15E-02 |
| IN   |           |              |          |          |          |
| IN   IN-ICP-002   1.24E+00   6.44E-01   2.62E+01   IN   IN-ICP-003   5.23E-01   2.71E-01   1.11E+01   IN   IN-ICP-004   1.08E-01   5.60E-02   2.28E+00   IN   IN-ICP-005   7.19E-01   3.73E-01   1.52E+01   IN   IN-W157.144   3.58E-06   2.38E-05   2.19E-11   IN   IN-W163.1007   1.11E-06   7.38E-06   8.28E-12   IN   IN-W164.153   1.06E-08   7.01E-08   6.60E-14   IN   IN-W167.149   1.71E-06   1.14E-05   1.05E-11   IN   IN-W174.154   2.30E-08   1.33E-06   IN   IN-W177.156   2.17E-08   3.87E-09   2.85E-14   IN   IN-W179.158   1.26E-09   1.91E-08   2.13E-13   IN   IN-W181.162   3.49E-07   2.38E-06   8.73E-13   IN   IN-W181.162   3.49E-07   2.38E-06   5.88E-12   IN   IN-W216.98   7.69E-05   5.10E-04   4.70E-10   IN   IN-W218.909   4.16E-06   2.85E-05   1.04E-11   IN   IN-W219.914   9.83E-09   6.71E-08   2.46E-14   IN   IN-W22.114   7.98E-05   4.18E-05   3.69E-11   IN   IN-W22.116   1.19E-05   7.87E-05   7.27E-11   IN   IN-W22.116   1.19E-05   7.87E-05   7.27E-11   IN   IN-W24.808   4.86E-04   5.75E-05   3.02E-11   IN   IN-W24.808   4.86E-04   5.75E-05   5.05E-11   IN   IN-W24.800   3.37E-05   5.05E-11   IN   IN-W24.800   3.37E-05   5.05E-11   IN   IN-W24.800   3.37E-05   5.05E-11   IN   IN-W24.800   3.37E-05   5.05E-11   IN   IN-W26.520   2.44E-07   1.16E-08   5.19E-14   IN   IN-W26.520   2.44E-07   1.16E-08   5.19E-14   IN   IN-W26.520   2.44E-07   1.16E-08   5.19E-14   IN   IN-W36.520   2.44E-07   1.16E-08   5.19E-14   IN   IN-W36.520   2.46E-06   1.33E-05   1.58E-11   IN   IN-W315.601   3.63E-07   2.48E-06   9.05E-13   IN   IN-W32.851   2.48E-04   7.28E-07   1.33E-11   IN   IN-W32.851   2.48E-04   7.28E-07   1.95E-06   1.33E-11   IN   IN-W32.851   2.48E-04   7.28E-07   IN   IN-W32.851   2.48E-04   7.28E-07   IN   IN-W32.851   2.48E-04   7.28E-07   IN   IN-W32.8551   2.48E-04   7.28E-07   IN   IN-W32.8551   2.48E-04   7.28E-07   IN   IN-W32.8551   2.48E-04   7.28E-0 |           |              |          |          |          |
| IN   |           |              | 1.24E+00 | 6.44E-01 | 2.62E+01 |
| IN   IN-ICP-004   1.08E-01   5.60E-02   2.28E+00   IN   IN-ICP-005   7.19E-01   3.73E-01   1.52E+01   IN   IN-W157.144   3.58E-06   2.38E-05   2.19E-11   IN   IN-W163.1007   1.11E-06   7.38E-06   8.28E-12   IN   IN-W164.153   1.06E-08   7.01E-08   6.60E-14   IN   IN-W167.149   1.71E-06   1.14E-05   1.05E-11   IN   IN-W177.156   2.17E-08   3.87E-09   2.85E-14   IN   IN-W177.156   2.17E-08   3.87E-09   2.85E-14   IN   IN-W179.158   1.26E-09   1.91E-08   2.13E-13   IN   IN-W181.162   3.49E-07   2.38E-06   8.73E-13   IN   IN-W188.160   9.44E-07   6.26E-06   5.88E-12   IN   IN-W218.909   4.16E-06   2.85E-05   1.04E-11   IN   IN-W219.914   9.83E-09   6.71E-08   2.46E-14   IN   IN-W220.114   7.98E-05   4.18E-05   3.69E-11   IN   IN-W221.1927   4.28E-04   2.32E-06   2.17E-12   IN   IN-W22.116   1.19E-05   7.87E-05   2.36E-11   IN   IN-W240.931   1.53E-04   3.27E-05   3.02E-11   IN   IN-W245.301   1.53E-04   5.75E-05   3.29E-05   IN   IN-W245.301   1.69E-05   1.12E-04   1.03E-10   IN   IN-W245.301   1.69E-05   1.12E-04   2.05E-10   IN   IN-W309.609   3.37E-05   2.23E-04   2.05E-10   IN   IN-W309.609   3.37E-05   2.23E-04   2.05E-10   IN   IN-W309.609   3.37E-05   2.23E-04   2.05E-10   IN   IN-W315.601   3.63E-07   2.48E-06   9.05E-13   IN   IN-W315.601   3.63E-07   2.48E-06   9.05E-13   IN   IN-W322.851   2.48E-04   7.28E-07   I.95E-06   I.79E-05   I.33E-11   IN   IN-W323.562   6.59E-04   1.95E-06   I.95E-06   I.95E |           |              |          |          |          |
| IN   |           |              |          |          |          |
| IN   |           |              |          |          |          |
| IN   |           | IN-W157.144  |          |          | 2.19E-11 |
| IN   |           |              |          |          |          |
| IN   |           |              |          |          | 2.85F-14 |
| IN   |           |              |          |          |          |
| IN         IN-W188.160         9.44E-07         6.26E-06         5.88E-12           IN         IN-W216.98         7.69E-05         5.10E-04         4.70E-10           IN         IN-W218.909         4.16E-06         2.85E-05         1.04E-11           IN         IN-W219.110         6.23E-08         4.25E-07         1.56E-13           IN         IN-W219.914         9.83E-09         6.71E-08         2.46E-14           IN         IN-W220.114         7.98E-05         4.18E-05         3.69E-11           IN         IN-W221.927         4.28E-04         2.32E-06         2.17E-12           IN         IN-W222.116         1.19E-05         7.87E-05         7.27E-11           IN         IN-W240.931         1.53E-04         3.27E-05         3.02E-11           IN         IN-W243.808         4.86E-04         5.75E-05         3.29E-05           IN         IN-W243.801         1.69E-05         1.12E-04         1.03E-10           IN         IN-W245.301         1.69E-05         1.12E-04         1.03E-10           IN         IN-W247.810         3.22E-04         5.49E-05         5.05E-11           IN         IN-W263.520         2.44E-07         1.16E-08         5.19E-14   |           |              |          |          |          |
| IN   |           |              |          |          |          |
| IN   |           |              |          |          |          |
| IN       IN-W219.110       6.23E-08       4.25E-07       1.56E-13         IN       IN-W219.914       9.83E-09       6.71E-08       2.46E-14         IN       IN-W220.114       7.98E-05       4.18E-05       3.69E-11         IN       IN-W221.927       4.28E-04       2.32E-06       2.17E-12         IN       IN-W222.116       1.19E-05       7.87E-05       7.27E-11         IN       IN-W228.101       3.87E-06       2.57E-05       2.36E-11         IN       IN-W240.931       1.53E-04       3.27E-05       3.02E-11         IN       IN-W243.808       4.86E-04       5.75E-05       3.29E-05         IN       IN-W245.301       1.69E-05       1.12E-04       1.03E-10         IN       IN-W247.810       3.22E-04       5.49E-05       5.05E-11         IN       IN-W263.520       2.44E-07       1.16E-08       5.19E-14         IN       IN-W267.1005       2.00E-06       1.33E-05       1.58E-11         IN       IN-W309.609       3.37E-05       2.23E-04       2.05E-10         IN       IN-W315.601       3.63E-07       2.48E-06       9.05E-13         IN       IN-W321.1023       2.67E-06       1.78E-05       1.33E-11  | IN        | IN-W218.909  |          |          |          |
| IN         IN-W219.914         9.83E-09         6.71E-08         2.46E-14           IN         IN-W220.114         7.98E-05         4.18E-05         3.69E-11           IN         IN-W221.927         4.28E-04         2.32E-06         2.17E-12           IN         IN-W222.116         1.19E-05         7.87E-05         7.27E-11           IN         IN-W228.101         3.87E-06         2.57E-05         2.36E-11           IN         IN-W240.931         1.53E-04         3.27E-05         3.02E-11           IN         IN-W243.808         4.86E-04         5.75E-05         3.29E-05           IN         IN-W243.801         1.69E-05         1.12E-04         1.03E-10           IN         IN-W247.810         3.22E-04         5.49E-05         5.05E-11           IN         IN-W249.527         1.46E-07         1.16E-08         5.19E-14           IN         IN-W267.1005         2.00E-06         1.33E-05         1.58E-11           IN         IN-W309.609         3.37E-05         2.23E-04         2.05E-10           IN         IN-W315.601         3.63E-07         2.48E-06         9.05E-13           IN         IN-W321.1023         2.67E-06         1.78E-05         1.33E-11 <td></td> <td></td> <td></td> <td></td> <td></td>  |           |              |          |          |          |
| IN IN-W221.927   | IN        | IN-W219.914  |          | 6.71E-08 |          |
| IN IN-W222.116   | IN        | IN-W220.114  | 7.98E-05 | 4.18E-05 | 3.69E-11 |
| IN IN-W228.101 3.87E-06 2.57E-05 2.36E-11 IN IN-W240.931 1.53E-04 3.27E-05 3.02E-11 IN IN-W243.808 4.86E-04 5.75E-05 3.29E-05 IN IN-W245.301 1.69E-05 1.12E-04 1.03E-10 IN IN-W247.810 3.22E-04 5.49E-05 5.05E-11 IN IN-W249.527 1.46E-07 IN IN-W263.520 2.44E-07 1.16E-08 5.19E-14 IN IN-W267.1005 2.00E-06 1.33E-05 1.58E-11 IN IN-W309.609 3.37E-05 2.23E-04 2.05E-10 IN IN-W315.601 3.63E-07 2.48E-06 9.05E-13 IN IN-W319.584 3.08E-07 2.05E-06 2.74E-12 IN IN-W322.851 2.48E-04 7.28E-07 IN IN-W322.952 6.59E-04 1.95E-06 IN IN-W323.562 9.58E-05   | IN        | IN-W221.927  | 4.28E-04 | 2.32E-06 | 2.17E-12 |
| IN         IN-W240.931         1.53E-04         3.27E-05         3.02E-11           IN         IN-W243.808         4.86E-04         5.75E-05         3.29E-05           IN         IN-W245.301         1.69E-05         1.12E-04         1.03E-10           IN         IN-W247.810         3.22E-04         5.49E-05         5.05E-11           IN         IN-W249.527         1.46E-07  | IN        | IN-W222.116  | 1.19E-05 | 7.87E-05 | 7.27E-11 |
| IN         IN-W243.808         4.86E-04         5.75E-05         3.29E-05           IN         IN-W245.301         1.69E-05         1.12E-04         1.03E-10           IN         IN-W247.810         3.22E-04         5.49E-05         5.05E-11           IN         IN-W249.527         1.46E-07  | IN        | IN-W228.101  | 3.87E-06 | 2.57E-05 | 2.36E-11 |
| IN         IN-W245.301         1.69E-05         1.12E-04         1.03E-10           IN         IN-W247.810         3.22E-04         5.49E-05         5.05E-11           IN         IN-W249.527         1.46E-07  | IN        | IN-W240.931  | 1.53E-04 | 3.27E-05 | 3.02E-11 |
| IN       IN-W247.810       3.22E-04       5.49E-05       5.05E-11         IN       IN-W249.527       1.46E-07       1.16E-08       5.19E-14         IN       IN-W263.520       2.44E-07       1.16E-08       5.19E-14         IN       IN-W267.1005       2.00E-06       1.33E-05       1.58E-11         IN       IN-W309.609       3.37E-05       2.23E-04       2.05E-10         IN       IN-W315.601       3.63E-07       2.48E-06       9.05E-13         IN       IN-W319.584       3.08E-07       2.05E-06       2.74E-12         IN       IN-W321.1023       2.67E-06       1.78E-05       1.33E-11         IN       IN-W322.851       2.48E-04       7.28E-07         IN       IN-W322.952       6.59E-04       1.95E-06         IN       IN-W323.562       9.58E-05       IN   | IN        | IN-W243.808  | 4.86E-04 | 5.75E-05 | 3.29E-05 |
| IN       IN-W247.810       3.22E-04       5.49E-05       5.05E-11         IN       IN-W249.527       1.46E-07       1.16E-08       5.19E-14         IN       IN-W263.520       2.44E-07       1.16E-08       5.19E-14         IN       IN-W267.1005       2.00E-06       1.33E-05       1.58E-11         IN       IN-W309.609       3.37E-05       2.23E-04       2.05E-10         IN       IN-W315.601       3.63E-07       2.48E-06       9.05E-13         IN       IN-W319.584       3.08E-07       2.05E-06       2.74E-12         IN       IN-W321.1023       2.67E-06       1.78E-05       1.33E-11         IN       IN-W322.851       2.48E-04       7.28E-07         IN       IN-W322.952       6.59E-04       1.95E-06         IN       IN-W323.562       9.58E-05       IN   | IN        | IN-W245.301  | 1.69E-05 | 1.12E-04 | 1.03E-10 |
| IN       IN-W263.520       2.44E-07       1.16E-08       5.19E-14         IN       IN-W267.1005       2.00E-06       1.33E-05       1.58E-11         IN       IN-W309.609       3.37E-05       2.23E-04       2.05E-10         IN       IN-W315.601       3.63E-07       2.48E-06       9.05E-13         IN       IN-W319.584       3.08E-07       2.05E-06       2.74E-12         IN       IN-W321.1023       2.67E-06       1.78E-05       1.33E-11         IN       IN-W322.851       2.48E-04       7.28E-07         IN       IN-W322.952       6.59E-04       1.95E-06         IN       IN-W323.562       9.58E-05  | IN        | IN-W247.810  | 3.22E-04 | 5.49E-05 | 5.05E-11 |
| IN         IN-W267.1005         2.00E-06         1.33E-05         1.58E-11           IN         IN-W309.609         3.37E-05         2.23E-04         2.05E-10           IN         IN-W315.601         3.63E-07         2.48E-06         9.05E-13           IN         IN-W319.584         3.08E-07         2.05E-06         2.74E-12           IN         IN-W321.1023         2.67E-06         1.78E-05         1.33E-11           IN         IN-W322.851         2.48E-04         7.28E-07           IN         IN-W322.952         6.59E-04         1.95E-06           IN         IN-W323.562         9.58E-05  | IN        | IN-W249.527  | 1.46E-07 |          |          |
| IN     IN-W309.609     3.37E-05     2.23E-04     2.05E-10       IN     IN-W315.601     3.63E-07     2.48E-06     9.05E-13       IN     IN-W319.584     3.08E-07     2.05E-06     2.74E-12       IN     IN-W321.1023     2.67E-06     1.78E-05     1.33E-11       IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05   | IN        | IN-W263.520  | 2.44E-07 | 1.16E-08 | 5.19E-14 |
| IN     IN-W315.601     3.63E-07     2.48E-06     9.05E-13       IN     IN-W319.584     3.08E-07     2.05E-06     2.74E-12       IN     IN-W321.1023     2.67E-06     1.78E-05     1.33E-11       IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05   | IN        | IN-W267.1005 | 2.00E-06 | 1.33E-05 | 1.58E-11 |
| IN     IN-W319.584     3.08E-07     2.05E-06     2.74E-12       IN     IN-W321.1023     2.67E-06     1.78E-05     1.33E-11       IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05   | IN        | IN-W309.609  | 3.37E-05 | 2.23E-04 | 2.05E-10 |
| IN     IN-W321.1023     2.67E-06     1.78E-05     1.33E-11       IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05   | IN        | IN-W315.601  | 3.63E-07 | 2.48E-06 | 9.05E-13 |
| IN     IN-W321.1023     2.67E-06     1.78E-05     1.33E-11       IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05   | IN        | IN-W319.584  | 3.08E-07 | 2.05E-06 | 2.74E-12 |
| IN     IN-W322.851     2.48E-04     7.28E-07       IN     IN-W322.952     6.59E-04     1.95E-06       IN     IN-W323.562     9.58E-05  | IN        | IN-W321.1023 | 2.67E-06 |          | 1.33E-11 |
| IN IN-W322.952 6.59E-04 1.95E-06 IN IN-W323.562 9.58E-05   | IN        |              |          |          |          |
| IN IN-W323.562 9.58E-05  | IN        |              |          |          |          |
| IN IN-W323.951 1.14E-04  | IN        | IN-W323.562  | 9.58E-05 |          |          |
|  | IN        | IN-W323.951  | 1.14E-04 |          |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| IN   | Site_Code | WIPP ID      | U-235    | U-236    | U-238    |
|--|-----------|--------------|----------|----------|----------|
| IN   | IN        | _            |          |          |          |
| IN   | IN        | IN-W337.673  | 8.24E-05 | 2.43E-07 |          |
| IN   | IN        | IN-W337.957  | 2.48E-04 | 7.28E-07 |          |
| IN   | IN        | IN-W342.652  | 5.16E-10 | 1.13E-24 |          |
| IN   | IN        | IN-W342.953  | 3.44E-10 | 7.58E-25 |          |
| IN   | IN        | IN-W347.818  | 9.28E-05 | 5.25E-05 | 9.77E-04 |
| IN   | IN        | IN-W348.1012 | 4.94E-06 | 3.28E-05 | 3.00E-11 |
| IN   | IN        | IN-W353.917  | 3.20E-10 |          |          |
| IN   IN-W358.855   6.93E-08   4.01E-06   IN   IN-W358.948   1.44E-08   8.35E-07   IN   IN-W361.1021   9.36E-07   6.23E-06   5.58E-12   IN   IN-W362.1020   1.22E-05   8.11E-05   7.09E-11   IN   IN-W363.1019   5.76E-07   3.80E-06   2.99E-12   IN   IN-W363.1019   5.76E-07   4.99E-06   7.41E-12   IN   IN-W365.1010   7.54E-07   4.99E-06   4.88E-12   IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   IN   IN-W375.1096   2.37E-07   1.57E-07   1.45E-03   8.35E-07   IA   IA   IA   IA   IA   IA   IA   I  | IN        | IN-W357.1022 | 9.64E-09 | 6.40E-08 | 6.70E-14 |
| IN   | IN        | IN-W358.854  | 1.30E-08 | 7.53E-07 |          |
| IN   IN-W361.1021   9.36E-07   6.23E-06   5.58E-12   IN   IN-W362.1020   1.22E-05   8.11E-05   7.09E-11   IN   IN-W363.1019   5.76E-07   3.80E-06   2.99E-12   IN   IN-W364.1011   9.46E-07   6.27E-06   7.41E-12   IN   IN-W366.51010   7.54E-07   4.99E-06   4.88E-12   IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   IN   IN-W375.1096   2.32E-07   I.46E-07   I.46E-07   I.46E-07   I.46E-07   I.46E-08   I.46E-07   I.46E-08   I.46E-07   I.46E-08   I.46E-07   I.46E-08   I.46E-07   I.46E-08   I.46E-07   I.46 | IN        | IN-W358.855  | 6.93E-08 | 4.01E-06 |          |
| IN   | IN        | IN-W358.948  | 1.44E-08 | 8.35E-07 |          |
| IN   IN-W363.1019   5.76E-07   3.80E-06   2.99E-12   IN   IN-W364.1011   9.46E-07   6.27E-06   7.41E-12   IN   IN-W365.1010   7.54E-07   4.99E-06   4.88E-12   IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-07   I.45E-07   I.45E-07   I.45E-07   I.45E-07   I.45E-07   I.45E-09   I.44E-09   I.45E-09   I.45 | IN        | IN-W361.1021 | 9.36E-07 | 6.23E-06 | 5.58E-12 |
| IN   IN-W364.1011   9.46E-07   6.27E-06   7.41E-12   IN   IN-W365.1010   7.54E-07   4.99E-06   4.88E-12   IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   IN   IN-W375.1096   2.37E-07   1.57E-08   1.45E-12   IN   IN-W375.1096   3.35E-07   I.45E-09   I.44   I.4-PX-00-01   I.56E-08   3.82E-09   8.35E-07   I.44   I.4-PX-00-01   I.53E-07   I.62E-07   I. | IN        | IN-W362.1020 | 1.22E-05 | 8.11E-05 | 7.09E-11 |
| IN   IN-W365.1010   7.54E-07   4.99E-06   4.88E-12   IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-03   3.82E-09   8.35E-07   I.44   IN-W360.001   I.56E-08   3.82E-09   8.35E-07   I.44   IN-W360.001   I.56E-08   3.82E-09   8.35E-07   I.44   IN-W360.001   I.45E-09   I.44   I.4-TA-03-12   I.45E-09   I.44   I.4-TA-03-13   I.45E-06   I.42E-07   I.42E-08   I.44E-07   I.72E-13   I.44E-07   I.42E-07   | IN        | IN-W363.1019 | 5.76E-07 | 3.80E-06 | 2.99E-12 |
| IN   IN-W366.841   6.38E-07   4.22E-06   3.76E-12   IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   KN   KN-B234TRU   6.98E-05   5.56E-03   LA   LA-IT-00-01   1.56E-08   3.82E-09   8.35E-07   LA   LA-D0-01   1.56E-08   3.82E-09   8.35E-07   LA   LA-Y-00-01   5.35E-10   3.79E-09   LA   LA-TA-03-12   3.23E-07   1.62E-07   6.15E-09   LA   LA-TA-03-13   5.00E-07   1.25E-07   7.84E-08   LA   LA-TA-03-19   1.95E-06   4.12E-07   2.82E-06   LA   LA-TA-03-20   1.45E-08   1.54E-07   1.72E-13   LA   LA-TA-03-26   2.28E-04   3.70E-06   2.52E-07   LA   LA-TA-03-28   7.08E-09   LA   LA-TA-03-30   1.39E-07   1.21E-06   9.28E-13   LA   LA-TA-03-40   8.92E-07   LA   LA-TA-03-42   1.01E-10   4.02E-11   1.18E-17   LA   LA-TA-03-42   1.01E-10   4.02E-11   1.18E-17   LA   LA-TA-21-12   1.53E-05   8.57E-07   2.14E-05   LA   LA-TA-21-13   8.99E-09   LA   LA-TA-21-14   3.10E-08   1.09E-11   LA   LA-TA-21-16   6.28E-05   2.26E-06   9.83E-13   LA   LA-TA-21-16   6.28E-05   2.26E-06   9.83E-13   LA   LA-TA-21-16   6.28E-05   2.26E-06   9.83E-13   LA   LA-TA-21-14   3.10E-08   1.09E-11   LA   LA-TA-21-14   1.61E-08   LA   LA-TA-21-44   1.61E-08   LA   LA-TA-21-44   1.61E-08   LA   LA-TA-21-44   8.92E-07   5.40E-08   LA   LA-TA-49-01   1.76E-06   1.56E-08   LA   LA-TA- | IN        | IN-W364.1011 | 9.46E-07 | 6.27E-06 | 7.41E-12 |
| IN   IN-W372.832   5.16E-10   1.13E-24   IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   KN   KN-B234TRU   6.98E-05   5.56E-03   LA   LA-IT-00-01   1.56E-08   3.82E-09   8.35E-07   LA   LA-OS-00-01   8.77E-07   LA   LA-Y-00-01   3.91E-09   LA   LA-X-03-12   3.23E-07   1.62E-07   6.15E-09   LA   LA-TA-03-13   5.00E-07   1.25E-07   7.84E-08   LA   LA-TA-03-19   1.95E-06   4.12E-07   2.82E-06   LA   LA-TA-03-20   1.45E-08   1.54E-07   1.72E-13   LA   LA-TA-03-26   2.28E-04   3.70E-06   2.52E-07   LA   LA-TA-03-28   7.08E-09   LA   LA-TA-03-30   1.39E-07   1.21E-06   9.28E-13   LA   LA-TA-03-40   8.92E-07   LA   LA-TA-03-42   1.01E-10   4.02E-11   1.18E-17   LA   LA-TA-03-42   1.01E-10   4.02E-11   1.18E-17   LA   LA-TA-21-12   1.53E-05   8.57E-07   2.14E-05   LA   LA-TA-21-14   3.10E-08   1.09E-11   LA   LA-TA-21-14   3.10E-08   1.09E-11   LA   LA-TA-21-16   6.28E-05   2.26E-06   9.83E-13   LA   LA-TA-21-14   1.61E-08   LA   LA-TA-21-44   1.61E-08   LA   LA-TA-21-44   8.92E-07   5.40E-08   LA   LA-TA-21-49   1.76E-06   1.56E-08   LA   LA-TA-49-01   1.76E-06   1.56E-08   LA   LA-TA-49-01   1.76E-06   1.56E-08   LA   LA-TA-49-01   1.76E-06   1.56E-08   LA   LA-TA-49-01   1 | IN        | IN-W365.1010 | 7.54E-07 | 4.99E-06 | 4.88E-12 |
| IN   IN-W375.1096   2.37E-07   1.57E-06   1.45E-12   | IN        | IN-W366.841  | 6.38E-07 | 4.22E-06 | 3.76E-12 |
| KN KN-B234TRU 6.98E-05 5.56E-03 LA LA-IT-00-01 1.56E-08 3.82E-09 8.35E-07 LA LA-OS-00-01 8.77E-07 LA LA-PX-00-01 5.35E-10 3.79E-09 LA LA-SL-00-01 3.91E-09 LA LA-TA-03-12 3.23E-07 1.62E-07 6.15E-09 LA LA-TA-03-13 5.00E-07 1.25E-07 7.84E-08 LA LA-TA-03-19 1.95E-06 4.12E-07 2.82E-06 LA LA-TA-03-20 1.45E-08 1.54E-07 1.72E-13 LA LA-TA-03-24 2.89E-06 3.05E-07 2.49E-06 LA LA-TA-03-26 2.28E-04 3.70E-06 2.52E-07 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-31 6.12E-08 4.48E-09 LA LA-TA-03-40 8.92E-07 LA LA-TA-03-40 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-16 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-13 8.99E-09 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.09E-11 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-49-01 1.76E-06 1.56E-08   | IN        | IN-W372.832  | 5.16E-10 | 1.13E-24 |          |
| LA         LA-IT-00-01         1.56E-08         3.82E-09         8.35E-07           LA         LA-OS-00-01         8.77E-07         1.00           LA         LA-PX-00-01         5.35E-10         3.79E-09         1.00           LA         LA-SL-00-01         3.91E-09         1.62E-07         6.15E-09           LA         LA-TA-03-12         3.23E-07         1.62E-07         6.15E-09           LA         LA-TA-03-13         5.00E-07         1.25E-07         7.84E-08           LA         LA-TA-03-19         1.95E-06         4.12E-07         2.82E-06           LA         LA-TA-03-20         1.45E-08         1.54E-07         1.72E-13           LA         LA-TA-03-24         2.89E-06         3.05E-07         2.49E-06           LA         LA-TA-03-26         2.28E-04         3.70E-06         2.52E-07           LA         LA-TA-03-30         1.39E-07         1.21E-06         9.28E-13           LA         LA-TA-03-31         6.12E-08         4.48E-09           LA         LA-TA-03-40         8.92E-07         1.18E-17           LA         LA-TA-21-16         4.51E-06         2.53E-07         2.39E-13           LA         LA-TA-21-12         1.53E-05   | IN        | IN-W375.1096 | 2.37E-07 | 1.57E-06 | 1.45E-12 |
| LA LA-OS-00-01 5.35E-10 3.79E-09 LA LA-PX-00-01 3.91E-09 LA LA-SL-00-01 3.91E-09 LA LA-TA-03-12 3.23E-07 1.62E-07 6.15E-09 LA LA-TA-03-13 5.00E-07 1.25E-07 7.84E-08 LA LA-TA-03-19 1.95E-06 4.12E-07 2.82E-06 LA LA-TA-03-20 1.45E-08 1.54E-07 1.72E-13 LA LA-TA-03-24 2.89E-06 3.05E-07 2.49E-06 LA LA-TA-03-26 2.28E-04 3.70E-06 2.52E-07 LA LA-TA-03-28 7.08E-09 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-31 6.12E-08 4.48E-09 LA LA-TA-03-40 8.92E-07 LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-49-01 1.76E-06 1.56E-08   | KN        | KN-B234TRU   | 6.98E-05 |          | 5.56E-03 |
| LA LA-PX-00-01 3.91E-09 LA LA-SL-00-01 3.91E-09 LA LA-TA-03-12 3.23E-07 1.62E-07 6.15E-09 LA LA-TA-03-13 5.00E-07 1.25E-07 7.84E-08 LA LA-TA-03-19 1.95E-06 4.12E-07 2.82E-06 LA LA-TA-03-20 1.45E-08 1.54E-07 1.72E-13 LA LA-TA-03-24 2.89E-06 3.05E-07 2.49E-06 LA LA-TA-03-26 2.28E-04 3.70E-06 2.52E-07 LA LA-TA-03-28 7.08E-09 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-31 6.12E-08 4.48E-09 LA LA-TA-03-40 8.92E-07 LA LA-TA-03-40 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-IT-00-01  | 1.56E-08 | 3.82E-09 | 8.35E-07 |
| LA LA-SL-00-01 3.91E-09  | LA        | LA-OS-00-01  | 8.77E-07 |          |          |
| LA LA-TA-03-12 3.23E-07 1.62E-07 6.15E-09 LA LA-TA-03-13 5.00E-07 1.25E-07 7.84E-08 LA LA-TA-03-19 1.95E-06 4.12E-07 2.82E-06 LA LA-TA-03-20 1.45E-08 1.54E-07 1.72E-13 LA LA-TA-03-24 2.89E-06 3.05E-07 2.49E-06 LA LA-TA-03-26 2.28E-04 3.70E-06 2.52E-07 LA LA-TA-03-28 7.08E-09 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-31 6.12E-08 4.48E-09 LA LA-TA-03-40 8.92E-07 LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-PX-00-01  | 5.35E-10 | 3.79E-09 |          |
| LA       LA-TA-03-13       5.00E-07       1.25E-07       7.84E-08         LA       LA-TA-03-19       1.95E-06       4.12E-07       2.82E-06         LA       LA-TA-03-20       1.45E-08       1.54E-07       1.72E-13         LA       LA-TA-03-24       2.89E-06       3.05E-07       2.49E-06         LA       LA-TA-03-26       2.28E-04       3.70E-06       2.52E-07         LA       LA-TA-03-28       7.08E-09       1.21E-06       9.28E-13         LA       LA-TA-03-30       1.39E-07       1.21E-06       9.28E-13         LA       LA-TA-03-31       6.12E-08       4.48E-09       1.44E-09         LA       LA-TA-03-40       8.92E-07       1.18E-17       1.18E-17         LA       LA-TA-21-06       4.51E-06       2.53E-07       2.39E-13         LA       LA-TA-21-12       1.53E-05       8.57E-07       2.14E-05         LA       LA-TA-21-13       8.99E-09       1.4E-05         LA       LA-TA-21-14       3.10E-08       1.09E-11       1.1E-14         LA       LA-TA-21-15       3.83E-08       1.98E-07       5.81E-14         LA       LA-TA-21-40       7.56E-09       2.53E-10       7.42E-17         L   | LA        | LA-SL-00-01  | 3.91E-09 |          |          |
| LA LA-TA-03-19   | LA        | LA-TA-03-12  | 3.23E-07 | 1.62E-07 | 6.15E-09 |
| LA       LA-TA-03-20       1.45E-08       1.54E-07       1.72E-13         LA       LA-TA-03-24       2.89E-06       3.05E-07       2.49E-06         LA       LA-TA-03-26       2.28E-04       3.70E-06       2.52E-07         LA       LA-TA-03-28       7.08E-09       1.21E-06       9.28E-13         LA       LA-TA-03-30       1.39E-07       1.21E-06       9.28E-13         LA       LA-TA-03-31       6.12E-08       4.48E-09         LA       LA-TA-03-40       8.92E-07       1.18E-17         LA       LA-TA-21-06       4.51E-06       2.53E-07       2.39E-13         LA       LA-TA-21-106       4.51E-06       2.53E-07       2.39E-13         LA       LA-TA-21-12       1.53E-05       8.57E-07       2.14E-05         LA       LA-TA-21-13       8.99E-09       1.09E-11       1.09E-11         LA       LA-TA-21-14       3.10E-08       1.09E-11       1.09E-11         LA       LA-TA-21-15       3.83E-08       1.98E-07       5.81E-14         LA       LA-TA-21-40       7.56E-09       2.53E-10       7.42E-17         LA       LA-TA-21-41       1.61E-08       1.03E-08       3.03E-15         LA       LA-T   | LA        | LA-TA-03-13  | 5.00E-07 | 1.25E-07 | 7.84E-08 |
| LA LA-TA-03-24 2.89E-06 3.05E-07 2.49E-06 LA LA-TA-03-26 2.28E-04 3.70E-06 2.52E-07 LA LA-TA-03-28 7.08E-09 LA LA-TA-03-30 1.39E-07 1.21E-06 9.28E-13 LA LA-TA-03-31 6.12E-08 4.48E-09 LA LA-TA-03-40 8.92E-07 LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-13 8.99E-09 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08  | LA        | LA-TA-03-19  | 1.95E-06 | 4.12E-07 | 2.82E-06 |
| LA LA-TA-03-26   | LA        | LA-TA-03-20  | 1.45E-08 | 1.54E-07 | 1.72E-13 |
| LA       LA-TA-03-28       7.08E-09         LA       LA-TA-03-30       1.39E-07       1.21E-06       9.28E-13         LA       LA-TA-03-31       6.12E-08       4.48E-09         LA       LA-TA-03-40       8.92E-07         LA       LA-TA-03-42       1.01E-10       4.02E-11       1.18E-17         LA       LA-TA-21-06       4.51E-06       2.53E-07       2.39E-13         LA       LA-TA-21-12       1.53E-05       8.57E-07       2.14E-05         LA       LA-TA-21-13       8.99E-09       1.09E-11       1.00E-11         LA       LA-TA-21-14       3.10E-08       1.09E-11       1.00E-11         LA       LA-TA-21-15       3.83E-08       1.98E-07       5.81E-14         LA       LA-TA-21-16       6.28E-05       2.26E-06       9.83E-13         LA       LA-TA-21-40       7.56E-09       2.53E-10       7.42E-17         LA       LA-TA-21-41       1.61E-08         LA       LA-TA-21-43       5.23E-05         LA       LA-TA-21-43       5.23E-05         LA       LA-TA-21-44       8.92E-07       5.40E-08         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04  | LA        | LA-TA-03-24  | 2.89E-06 | 3.05E-07 | 2.49E-06 |
| LA LA-TA-03-30   | LA        | LA-TA-03-26  | 2.28E-04 | 3.70E-06 | 2.52E-07 |
| LA LA-TA-03-31 6.12E-08 4.48E-09  LA LA-TA-03-40 8.92E-07  LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17  LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13  LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05  LA LA-TA-21-13 8.99E-09  LA LA-TA-21-14 3.10E-08 1.09E-11  LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14  LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13  LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17  LA LA-TA-21-41 1.61E-08  LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15  LA LA-TA-21-43 5.23E-05  LA LA-TA-21-44 8.92E-07 5.40E-08  LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04  LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-TA-03-28  | 7.08E-09 |          |          |
| LA LA-TA-03-40 8.92E-07 LA LA-TA-03-42 1.01E-10 4.02E-11 1.18E-17 LA LA-TA-21-06 4.51E-06 2.53E-07 2.39E-13 LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-13 8.99E-09 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-TA-03-30  | 1.39E-07 | 1.21E-06 | 9.28E-13 |
| LA LA-TA-03-42   | LA        | LA-TA-03-31  | 6.12E-08 | 4.48E-09 |          |
| LA       LA-TA-21-06       4.51E-06       2.53E-07       2.39E-13         LA       LA-TA-21-12       1.53E-05       8.57E-07       2.14E-05         LA       LA-TA-21-13       8.99E-09       1.09E-11         LA       LA-TA-21-14       3.10E-08       1.09E-11         LA       LA-TA-21-15       3.83E-08       1.98E-07       5.81E-14         LA       LA-TA-21-16       6.28E-05       2.26E-06       9.83E-13         LA       LA-TA-21-40       7.56E-09       2.53E-10       7.42E-17         LA       LA-TA-21-41       1.61E-08       1.03E-08       3.03E-15         LA       LA-TA-21-43       5.23E-05       1.03E-08       3.03E-15         LA       LA-TA-21-44       8.92E-07       5.40E-08       1.47E-04         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04         LA       LA-TA-49-01       1.76E-06       1.56E-08   | LA        | LA-TA-03-40  | 8.92E-07 |          |          |
| LA LA-TA-21-12 1.53E-05 8.57E-07 2.14E-05 LA LA-TA-21-13 8.99E-09 LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-TA-03-42  | 1.01E-10 | 4.02E-11 | 1.18E-17 |
| LA       LA-TA-21-13       8.99E-09         LA       LA-TA-21-14       3.10E-08       1.09E-11         LA       LA-TA-21-15       3.83E-08       1.98E-07       5.81E-14         LA       LA-TA-21-16       6.28E-05       2.26E-06       9.83E-13         LA       LA-TA-21-40       7.56E-09       2.53E-10       7.42E-17         LA       LA-TA-21-41       1.61E-08         LA       LA-TA-21-42       7.48E-08       1.03E-08       3.03E-15         LA       LA-TA-21-43       5.23E-05         LA       LA-TA-21-44       8.92E-07       5.40E-08         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04         LA       LA-TA-49-01       1.76E-06       1.56E-08   | LA        | LA-TA-21-06  | 4.51E-06 | 2.53E-07 | 2.39E-13 |
| LA LA-TA-21-14 3.10E-08 1.09E-11 LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08  | LA        | LA-TA-21-12  | 1.53E-05 | 8.57E-07 | 2.14E-05 |
| LA LA-TA-21-15 3.83E-08 1.98E-07 5.81E-14 LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08  | LA        | LA-TA-21-13  | 8.99E-09 |          |          |
| LA LA-TA-21-16 6.28E-05 2.26E-06 9.83E-13 LA LA-TA-21-40 7.56E-09 2.53E-10 7.42E-17 LA LA-TA-21-41 1.61E-08 LA LA-TA-21-42 7.48E-08 1.03E-08 3.03E-15 LA LA-TA-21-43 5.23E-05 LA LA-TA-21-44 8.92E-07 5.40E-08 LA LA-TA-48-01 2.81E-09 3.85E-07 1.47E-04 LA LA-TA-49-01 1.76E-06 1.56E-08  | LA        | LA-TA-21-14  | 3.10E-08 | 1.09E-11 |          |
| LA     LA-TA-21-40     7.56E-09     2.53E-10     7.42E-17       LA     LA-TA-21-41     1.61E-08  | LA        | LA-TA-21-15  | 3.83E-08 | 1.98E-07 | 5.81E-14 |
| LA     LA-TA-21-41     1.61E-08  | LA        | LA-TA-21-16  | 6.28E-05 | 2.26E-06 | 9.83E-13 |
| LA       LA-TA-21-42       7.48E-08       1.03E-08       3.03E-15         LA       LA-TA-21-43       5.23E-05         LA       LA-TA-21-44       8.92E-07       5.40E-08         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04         LA       LA-TA-49-01       1.76E-06       1.56E-08  | LA        | LA-TA-21-40  | 7.56E-09 | 2.53E-10 | 7.42E-17 |
| LA       LA-TA-21-43       5.23E-05         LA       LA-TA-21-44       8.92E-07       5.40E-08         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04         LA       LA-TA-49-01       1.76E-06       1.56E-08  | LA        | LA-TA-21-41  | 1.61E-08 |          |          |
| LA       LA-TA-21-44       8.92E-07       5.40E-08         LA       LA-TA-48-01       2.81E-09       3.85E-07       1.47E-04         LA       LA-TA-49-01       1.76E-06       1.56E-08  | LA        | LA-TA-21-42  | 7.48E-08 | 1.03E-08 | 3.03E-15 |
| LA     LA-TA-48-01     2.81E-09     3.85E-07     1.47E-04       LA     LA-TA-49-01     1.76E-06     1.56E-08   | LA        | LA-TA-21-43  | 5.23E-05 |          |          |
| LA LA-TA-49-01 1.76E-06 1.56E-08   | LA        | LA-TA-21-44  | 8.92E-07 | 5.40E-08 |          |
|  | LA        | LA-TA-48-01  | 2.81E-09 | 3.85E-07 | 1.47E-04 |
| LA LA-TA-50-10 2.26E-10  | LA        | LA-TA-49-01  | 1.76E-06 | 1.56E-08 |          |
|  | LA        | LA-TA-50-10  | 2.26E-10 |          |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Sita Codo       | WIDD ID                | 11.225            | 11.226               | 11 220            |
|-----------------|------------------------|-------------------|----------------------|-------------------|
| Site_Code<br>LA | WIPP_ID<br>LA-TA-50-11 | U-235<br>1.01E-08 | U-236<br>6.81E-08    | U-238<br>1.83E-01 |
| LA              | LA-TA-50-15            | 1.16E-05          | 6.08E-08             | 1.05E-09          |
| LA              | LA-TA-50-17            | 1.34E-04          | 1.86E-10             | 2.38E-16          |
| LA              | LA-TA-50-17            | 8.80E-08          | 4.77E-12             | 7.30E-18          |
| LA              | LA-TA-50-19            | 3.19E-06          | 4.77E-12<br>4.22E-09 | 1.53E-08          |
| LA              | LA-TA-50-19            | 2.31E-10          | 4.22L-03             | 1.55L-00          |
| LA              | LA-TA-50-40            | 2.52E-10          | 3.54E-09             | 5.96E-15          |
| LA              | LA-TA-50-40            | 6.03E-10          | 4.26E-09             | 1.25E-15          |
| LA              | LA-TA-55-19            | 5.08E-05          | 9.44E-06             | 2.18E-05          |
| LA              | LA-TA-55-20            | 2.58E-03          | 4.12E-04             | 2.91E-04          |
| LA              | LA-TA-55-21            | 5.47E-06          | 3.88E-07             | 7.23E-08          |
| LA              | LA-TA-55-22            | 1.88E-07          | 1.33E-06             | 5.19E-13          |
| LA              | LA-TA-55-23            | 8.91E-05          | 8.82E-07             | 9.71E-06          |
| LA              | LA-TA-55-24            | 3.39E-08          | 2.38E-07             | 6.98E-14          |
| LA              | LA-TA-55-25            | 3.23E-05          | 1.19E-06             | 3.18E-07          |
| LA              | LA-TA-55-28            | 6.18E-06          | 4.31E-07             | 9.60E-09          |
| LA              | LA-TA-55-30            | 1.23E-05          | 2.12E-05             | 9.91E-05          |
| LA              | LA-TA-55-32            | 3.64E-05          | 6.75E-06             | 2.98E-07          |
| LA              | LA-TA-55-33            | 7.29E-06          | 3.26E-07             | 6.09E-07          |
| LA              | LA-TA-55-34            | 1.04E-04          | 2.99E-05             | 4.47E-03          |
| LA              | LA-TA-55-38            | 6.76E-05          | 1.02E-05             | 2.25E-03          |
| LA              | LA-TA-55-39            | 7.51E-07          | 5.11E-06             | 1.53E-12          |
| LA              | LA-TA-55-41            | 9.79E-07          | 7.09E-06             | 1.20E-10          |
| LA              | LA-TA-55-43            | 1.26E-09          | 1.34E-08             | 4.54E-14          |
| LA              | LA-TA-55-44            | 7.41E-07          | 5.74E-07             | 1.58E-05          |
| LA              | LA-TA-55-48            | 4.28E-09          | 6.45E-08             | 2.68E-13          |
| LA              | LA-TA-55-49            | 6.37E-05          | 6.21E-06             | 4.17E-04          |
| LA              | LA-TA-55-53            | 4.74E-06          | 3.12E-05             | 2.59E-09          |
| LA              | LA-TA-55-56            | 8.50E-06          | 3.19E-05             | 1.27E-05          |
| LA              | LA-TA-55-60            | 1.63E-09          | 1.76E-08             | 2.23E-09          |
| LA              | LA-TA-55-61            | 2.88E-09          | 2.96E-08             | 3.08E-13          |
| LA              | LA-TA-55-62            | 5.06E-10          | 7.33E-09             | 1.23E-14          |
| LA              | LA-TA-55-63            | 1.18E-09          | 8.26E-09             | 2.42E-15          |
| LL              | LL-M001                |                   |                      |                   |
| LL              | LL-T001                |                   |                      |                   |
| LL              | LL-T002                |                   |                      |                   |
| LL              | LL-T003                |                   |                      |                   |
| LL              | LL-T004                |                   |                      |                   |
| LL              | LL-T005                |                   |                      |                   |
| LL              | LL-W018                |                   |                      |                   |
| LL              | LL-W019                |                   |                      |                   |
| LL              | LL-W034                |                   |                      |                   |
| МС              | MC-W001                | 4.78E-10          |                      |                   |
| MU              | MU-W002                | 2.08E-10          |                      | 2.41E-07          |
| NT              | NT-JAS-01              |                   |                      |                   |
| NT              | NT-W001                | 1.52E-04          | 9.04E-06             | 1.57E-04          |
| NT              | NT-W021                | 5.08E-07          | 3.50E-06             | 1.58E-12          |
| OR              | OR-W201                | 3.71E-03          | 7.84E-04             | 3.25E-02          |
| OR              | OR-W202                | 1.19E-02          | 4.35E-04             | 6.85E-02          |
| OR              | OR-W203                | 2.97E-10          | 4.78E-07             | 3.10E-11          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP ID    | U-235    | U-236    | U-238    |
|-----------|------------|----------|----------|----------|
| OR        | OR-W204    | 8.27E-05 | 1.09E-07 | 4.26E-04 |
| PA        | PA-A015    | 4.40E-09 |          |          |
| RF        | RF-MT0001  | 2.32E-06 | 1.60E-05 | 1.03E-11 |
| RF        | RF-MT0002  | 1.78E-07 | 1.23E-06 | 7.90E-13 |
| RF        | RF-MT0003  | 1.22E-06 | 2.81E-07 | 1.81E-13 |
| RF        | RF-MT0007  | 5.09E-09 | 3.50E-08 |          |
| RF        | RF-MT0089  | 4.08E-10 | 2.81E-09 | 1.81E-15 |
| RF        | RF-MT0090  | 1.05E-06 | 7.15E-06 | 2.22E-12 |
| RF        | RF-MT0091  | 1.69E-04 | 4.81E-04 | 8.73E-07 |
| RF        | RF-MT0092  | 1.00E-05 | 7.01E-05 | 2.28E-11 |
| RF        | RF-MT0093  | 1.08E-05 | 7.70E-05 | 2.60E-11 |
| RF        | RF-MT0097  | 5.66E-07 | 3.50E-06 | 8.91E-13 |
| RF        | RF-MT0099  | 6.12E-10 | 4.21E-09 | 2.71E-15 |
| RF        | RF-MT0290  | 1.52E-06 | 1.04E-05 | 6.71E-12 |
| RF        | RF-MT-0292 | 1.92E-06 | 1.32E-05 | 8.48E-12 |
| RF        | RF-MT-0299 | 4.91E-05 | 3.39E-04 | 3.79E-03 |
| RF        | RF-MT0302  | 5.44E-07 | 1.46E-08 | 4.78E-09 |
| RF        | RF-MT0320  | 2.46E-06 | 1.42E-05 | 3.56E-09 |
| RF        | RF-MT0321  | 6.96E-05 | 4.01E-06 | 6.11E-07 |
| RF        | RF-MT-0328 | 8.83E-06 | 3.99E-07 | 7.76E-08 |
| RF        | RF-MT0330  | 1.31E-06 | 9.69E-06 | 3.39E-12 |
| RF        | RF-MT-0331 | 6.75E-04 | 4.31E-05 | 1.37E-05 |
| RF        | RF-MT0332  | 1.43E-09 | 9.83E-09 | 6.33E-15 |
| RF        | RF-MT-0335 | 1.69E-05 | 5.09E-07 | 1.55E-06 |
| RF        | RF-MT0336  | 6.39E-05 | 3.58E-05 | 5.19E-07 |
| RF        | RF-MT0337  | 1.27E-04 | 2.16E-05 | 1.10E-06 |
| RF        | RF-MT0339  | 2.20E-04 | 3.94E-05 | 5.38E-05 |
| RF        | RF-MT-0342 | 1.95E-06 | 4.37E-07 | 1.15E-06 |
| RF        | RF-MT0371  | 5.44E-05 | 8.69E-05 | 3.70E-07 |
| RF        | RF-MT-0372 | 7.81E-06 | 6.08E-07 | 6.83E-08 |
| RF        | RF-MT0373  | 1.66E-06 | 1.13E-05 | 3.52E-12 |
| RF        | RF-MT0374  | 6.24E-07 | 2.25E-07 | 3.53E-06 |
| RF        | RF-MT0376  | 5.19E-07 | 2.28E-07 | 9.36E-07 |
| RF        | RF-MT0377  | 3.39E-04 | 1.05E-04 | 2.85E-06 |
| RF        | RF-MT0378  | 2.10E-07 | 1.45E-06 | 9.32E-13 |
| RF        | RF-MT0419  | 1.96E-07 | 1.35E-06 | 8.70E-13 |
| RF        | RF-MT0420  | 3.41E-08 | 2.35E-07 | 1.51E-13 |
| RF        | RF-MT0423  | 4.93E-07 | 3.29E-06 | 9.72E-13 |
| RF        | RF-MT0425  | 8.54E-09 | 5.88E-08 | 3.78E-14 |
| RF        | RF-MT-0438 | 5.76E-07 | 1.03E-06 | 3.76E-09 |
| RF        | RF-MT0440  | 5.46E-06 | 3.85E-07 | 1.63E-06 |
| RF        | RF-MT0442  | 2.96E-06 | 1.29E-07 | 3.23E-07 |
| RF        | RF-MT0443  | 6.77E-06 | 2.01E-06 | 1.49E-04 |
| RF        | RF-MT0444  | 2.10E-06 | 9.53E-06 | 6.30E-09 |
| RF        | RF-MT0480  | 7.93E-05 | 2.58E-05 | 3.73E-05 |
| RF        | RF-MT0488  | 7.76E-04 | 3.13E-05 | 6.82E-06 |
| RF        | RF-MT0490  | 7.84E-07 | 2.39E-07 | 6.62E-05 |
| RF        | RF-MT-0491 | 1.72E-07 | 1.08E-08 | 5.74E-10 |
| RF        | RF-MT0523A | 3.53E-04 | 8.56E-06 | 4.10E-04 |
| RF        | RF-MT0523B | 3.53E-04 | 8.56E-06 | 4.10E-04 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP ID    | U-235    | U-236    | U-238    |
|-----------|------------|----------|----------|----------|
| RF        | RF-MT0523C | 3.53E-04 | 8.56E-06 | 4.10E-04 |
| RF        | RF-MT0523D | 3.53E-04 | 8.56E-06 | 4.10E-04 |
| RF        | RF-MT0523E | 3.53E-04 | 8.56E-06 | 4.10E-04 |
| RF        | RF-MT0531  | 2.04E-10 | 1.40E-09 | 9.04E-16 |
| RF        | RF-MT0532E | 4.34E-05 | 1.86E-05 | 7.19E-04 |
| RF        | RF-MT0532F | 4.34E-05 | 1.86E-05 | 7.19E-04 |
| RF        | RF-MT0541  | 3.85E-08 | 2.64E-07 | 1.70E-13 |
| RF        | RF-MT0545  | 1.85E-09 | 1.28E-08 | 8.21E-15 |
| RF        | RF-MT0800  | 7.01E-05 | 6.31E-06 | 8.46E-06 |
| RF        | RF-MT0801  | 8.95E-07 | 6.14E-06 | 3.95E-12 |
| RF        | RF-MT0803  | 2.02E-08 | 1.38E-07 | 8.90E-14 |
| RF        | RF-MT0806  | 8.74E-08 | 5.96E-07 | 1.85E-13 |
| RF        | RF-MT0807  | 2.04E-05 | 2.56E-06 | 1.65E-12 |
| RF        | RF-MT0816  | 1.40E-04 | 3.61E-07 | 2.32E-13 |
| RF        | RF-MT-0823 | 6.79E-06 | 1.65E-07 | 7.88E-06 |
| RF        | RF-MT0827  | 3.32E-03 | 8.57E-06 | 5.52E-12 |
| RF        | RF-MT0831  | 3.98E-04 | 2.47E-05 | 9.01E-05 |
| RF        | RF-MT0832  | 9.42E-04 | 8.18E-05 | 9.11E-04 |
| RF        | RF-MT0833  | 2.52E-04 | 2.31E-05 | 3.48E-04 |
| RF        | RF-MT0855  | 1.75E-09 | 1.20E-08 | 7.75E-15 |
| RF        | RF-MT0857  | 8.72E-08 | 5.95E-07 | 1.85E-13 |
| RF        | RF-MT0H61  | 3.23E-06 | 2.21E-05 | 6.85E-12 |
| RF        | RF-MT2116  | 1.18E-05 | 1.03E-06 | 1.14E-05 |
| RF        | RF-MT3010  | 1.08E-05 | 7.85E-06 | 3.97E-07 |
| RF        | RF-MT3011  | 2.19E-04 | 5.25E-05 | 1.63E-04 |
| RF        | RF-MT420P  | 3.98E-04 | 5.17E-04 | 2.85E-06 |
| RF        | RF-MT532A  | 7.64E-05 | 3.28E-05 | 1.26E-03 |
| RF        | RF-MT532B  | 3.43E-04 | 1.47E-04 | 5.68E-03 |
| RF        | RF-MT532C  | 6.88E-04 | 2.95E-04 | 1.14E-02 |
| RF        | RF-MT532D  | 4.34E-06 | 1.86E-06 | 7.19E-05 |
| RF        | RF-TT0069  | 8.48E-06 | 3.04E-08 | 6.58E-04 |
| RF        | RF-TT0200  | 2.17E-07 | 1.25E-06 | 3.14E-10 |
| RF        | RF-TT0299  | 3.30E-07 | 2.27E-06 | 2.54E-05 |
| RF        | RF-TT0300  | 2.74E-04 | 6.44E-05 | 1.55E-04 |
| RF        | RF-TT0301  | 3.78E-05 | 8.88E-06 | 2.14E-05 |
| RF        | RF-TT0302  | 1.21E-05 | 3.25E-07 | 1.06E-07 |
| RF        | RF-TT0303  | 3.37E-05 | 1.86E-06 | 2.76E-05 |
| RF        | RF-TT0310  | 7.20E-06 | 8.64E-06 | 5.29E-08 |
| RF        | RF-TT0312  | 8.35E-05 | 1.81E-04 | 1.26E-05 |
| RF        | RF-TT0317  | 2.49E-08 | 1.71E-07 | 1.10E-13 |
| RF        | RF-TT0320  | 9.12E-06 | 5.26E-05 | 1.32E-08 |
| RF        | RF-TT0330  | 4.77E-06 | 3.53E-05 | 1.24E-11 |
| RF        | RF-TT-0331 | 1.90E-03 | 1.21E-04 | 3.87E-05 |
| RF        | RF-TT-0334 | 1.00E-05 | 6.89E-05 | 4.43E-11 |
| RF        | RF-TT0335  | 1.91E-03 | 5.76E-05 | 1.76E-04 |
| RF        | RF-TT0336  | 1.01E-04 | 5.65E-05 | 8.19E-07 |
| RF        | RF-TT0337  | 4.32E-04 | 7.34E-05 | 3.73E-06 |
| RF        | RF-TT0338  | 5.30E-04 | 2.77E-04 | 3.04E-05 |
| RF        | RF-TT0340  | 5.83E-07 | 4.01E-06 | 2.58E-12 |
| RF        | RF-TT0342  | 9.75E-05 | 2.19E-05 | 5.77E-05 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP ID    | U-235    | U-236    | U-238    |
|-----------|------------|----------|----------|----------|
| RF        | RF-TT0360  | 3.58E-07 | 1.07E-06 | 1.81E-09 |
| RF        | RF-TT0368  | 7.17E-06 | 2.15E-05 | 3.61E-08 |
| RF        | RF-TT0370  | 2.61E-04 | 4.73E-05 | 2.25E-06 |
| RF        | RF-TT0371  | 5.55E-07 | 8.87E-07 | 3.78E-09 |
| RF        | RF-TT0372  | 2.23E-06 | 1.74E-07 | 1.95E-08 |
| RF        | RF-TT0374  | 1.07E-05 | 3.87E-06 | 6.06E-05 |
| RF        | RF-TT0375A | 7.36E-09 | 5.07E-08 | 3.26E-14 |
| RF        | RF-TT0375B | 7.36E-09 | 5.07E-08 | 3.26E-14 |
| RF        | RF-TT0376  | 2.86E-05 | 1.25E-05 | 5.15E-05 |
| RF        | RF-TT0377  | 1.47E-05 | 4.55E-06 | 1.24E-07 |
| RF        | RF-TT0391  | 2.00E-07 | 1.35E-06 | 4.96E-13 |
| RF        | RF-TT0392  | 1.10E-07 | 7.16E-07 | 4.73E-11 |
| RF        | RF-TT0393  | 4.87E-06 | 3.35E-05 | 2.16E-11 |
| RF        | RF-TT0398  | 1.98E-07 | 1.33E-06 | 2.56E-11 |
| RF        | RF-TT0409  | 1.21E-07 | 6.86E-07 | 1.80E-10 |
| RF        | RF-TT0412  | 1.21E-07 | 6.86E-07 | 1.80E-10 |
| RF        | RF-TT0414  | 3.76E-06 | 2.13E-05 | 5.58E-09 |
| RF        | RF-TT0430  | 1.39E-09 | 9.55E-09 | 6.15E-15 |
| RF        | RF-TT0431  | 7.29E-06 | 2.28E-06 | 6.17E-08 |
| RF        | RF-TT0438  | 6.47E-05 | 1.16E-04 | 4.23E-07 |
| RF        | RF-TT0440  | 1.43E-04 | 1.01E-05 | 4.28E-05 |
| RF        | RF-TT0441  | 1.56E-04 | 4.04E-05 | 3.59E-04 |
| RF        | RF-TT0442  | 1.68E-04 | 7.34E-06 | 1.83E-05 |
| RF        | RF-TT0443  | 5.10E-07 | 1.52E-07 | 1.12E-05 |
| RF        | RF-TT0479  | 3.01E-07 | 2.07E-06 | 1.33E-12 |
| RF        | RF-TT0480  | 2.07E-04 | 6.72E-05 | 9.73E-05 |
| RF        | RF-TT0481  | 1.46E-07 | 4.76E-08 | 6.89E-08 |
| RF        | RF-TT0483  | 1.05E-03 | 2.55E-07 | 1.29E-01 |
| RF        | RF-TT0484  | 8.67E-06 | 1.06E-06 | 5.31E-04 |
| RF        | RF-TT0485  | 3.22E-05 | 6.53E-08 | 2.49E-03 |
| RF        | RF-TT0486  | 2.63E-05 | 3.87E-07 | 2.04E-03 |
| RF        | RF-TT0487  | 1.24E-05 | 1.08E-06 | 1.20E-05 |
| RF        | RF-TT0489  | 1.17E-05 | 5.92E-07 | 9.02E-04 |
| RF        | RF-TT0490  | 1.05E-04 | 3.19E-05 | 8.83E-03 |
| RF        | RF-TT0491  | 7.66E-06 | 4.80E-07 | 2.55E-08 |
| RF        | RF-TT0492  | 4.15E-08 | 2.85E-07 | 1.84E-13 |
| RF        | RF-TT0523A | 4.76E-05 | 1.15E-06 | 5.52E-05 |
| RF        | RF-TT0523B | 4.76E-05 | 1.15E-06 | 5.52E-05 |
| RF        | RF-TT0523C | 4.76E-05 | 1.15E-06 | 5.52E-05 |
| RF        | RF-TT0523D | 4.76E-05 | 1.15E-06 | 5.52E-05 |
| RF        | RF-TT0523E | 4.76E-05 | 1.15E-06 | 5.52E-05 |
| RF        | RF-TT0532A | 4.46E-05 | 1.91E-05 | 7.38E-04 |
| RF        | RF-TT0532B | 4.46E-05 | 1.91E-05 | 7.38E-04 |
| RF        | RF-TT0541  | 1.67E-08 | 1.15E-07 | 7.38E-14 |
| RF        | RF-TT0545  | 3.71E-09 | 2.55E-08 | 1.64E-14 |
| RF        | RF-TT0601  | 1.55E-06 | 4.65E-06 | 7.83E-09 |
| RF        | RF-TT0802  | 5.47E-02 | 3.57E-04 | 2.36E-04 |
| RF        | RF-TT0809  | 3.94E-03 | 2.58E-05 | 1.70E-05 |
| RF        | RF-TT0821  | 5.53E-03 | 1.12E-04 | 1.43E-04 |
| RF        | RF-TT0822  | 5.03E-03 | 7.48E-05 | 5.05E-04 |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site Code | WIPP ID                | U-235     | U-236    | U-238                |
|-----------|------------------------|-----------|----------|----------------------|
| RF        | RF-TT0823              | 6.79E-06  | 1.65E-07 | 7.88E-06             |
| RF        | RF-TT0824              | 2.47E-03  | 1.96E-04 | 3.51E-03             |
| RF        | RF-TT0825              | 2.37E-03  | 1.59E-04 | 1.58E-03             |
| RF        | RF-TT0832              | 8.55E-04  | 7.43E-05 | 8.27E-04             |
| RF        | RF-TT0854              | 6.70E-05  | 6.99E-08 | 5.20E-03             |
| RF        | RF-TT0886              | 1.85E-09  | 1.27E-08 | 8.19E-15             |
| RF        | RF-TT2216              | 1.77E-05  | 1.54E-06 | 1.71E-05             |
| RF        | RF-TT3010              | 1.31E-04  | 9.52E-05 | 4.81E-06             |
| RF        | RF-TT3011              | 9.19E-04  | 2.20E-04 | 6.82E-04             |
| RF        | RF-TT301U              | 1.04E-05  | 3.00E-05 | 1.02E-04             |
| RF        | RF-TT310P              | 1.56E-06  | 9.44E-06 | 1.05E-09             |
| RF        | RF-TT338S              | 4.98E-08  | 3.43E-07 | 2.21E-13             |
| RF        | RF-TT390P              | 1.17E-06  | 1.53E-06 | 8.21E-09             |
| RF        | RF-TT391P              | 1.09E-05  | 7.38E-05 | 2.70E-11             |
| RF        | RF-TT391P              | 3.44E-05  | 2.24E-04 | 1.48E-08             |
| RF        | RF-TT393R              | 1.06E-05  | 3.45E-05 | 4.93E-08             |
| RF        | RF-TT394P              | 6.15E-07  | 2.46E-06 | 2.03E-09             |
| RF        | RF-TT395P              | 8.22E-07  | 3.29E-06 | 2.71E-09             |
| RF        | RF-TT396P              | 2.06E-07  | 8.22E-07 | 6.77E-10             |
| RF        | RF-TT398P              | 2.05E-05  | 1.38E-04 | 2.65E-09             |
| RF        | RF-TT398R              | 3.27E-05  | 2.23E-04 | 8.63E-11             |
| RF        | RF-TT411R              | 4.48E-06  |          |                      |
|           |                        |           | 2.54E-05 | 6.66E-09             |
| RF<br>RF  | RF-TT429R              | 8.64E-07  | 5.77E-06 | 1.48E-12             |
| RF        | RF-TT433X<br>RF-TT436R | 2.48E-07  | 1.50E-06 | 3.67E-13             |
| RF        |                        | 3.25E-06  | 2.21E-05 | 7.14E-12<br>4.20E-13 |
| RL        | RF-TT454X              | 1.91E-07  | 1.30E-06 |                      |
| RL        | RL-T101                | 8.92E-12  |          | 1.94E-10             |
| RL        | RL-T102                | 5.14E-08  |          | 1.11E-06             |
| RL        | RL-T103<br>RL-T104     | 1 46E 00  |          | 2 175 00             |
| RL        | RL-T105                | 1.46E-09  |          | 3.17E-08<br>4.95E-08 |
| RL        | RL-T105                | 4.60E-06  |          | 4.93E-06             |
| RL        | RL-T100                | 1.89E-02  |          | 3.51E-01             |
| RL        | RL-T108                | 1.31E-06  |          | 2.85E-05             |
| RL        | RL-T109                | 3.10E-04  |          | 7.95E-03             |
| RL        | RL-T1109               | 6.57E-02  |          | 1.91E-01             |
| RL        | RL-T112                | 5.11E-02  |          | 3.20E-02             |
| RL        | RL-T113                | J.11L-02  |          | J.ZUL-UZ             |
| RL        | RL-T114                |           |          |                      |
| RL        | RL-T115                | 1.17E-03  |          | 4.56E-02             |
| RL        | RL-T116                | 5.78E-03  |          | 6.22E-05             |
| RL        | RL-T118                | 1.66E-02  |          | 1.57E-01             |
| RL        | RL-T120                | 2.53E-08  |          | 5.50E-07             |
| RL        | RL-T122                | 1.50E-01  |          | 1.62E-03             |
| RL        | RL-T123                | 6.12E-03  |          | 6.61E-05             |
| RL        | RL-T125                | J. 12L-UJ |          | J.01L-03             |
| RL        | RL-T127                | 1.69E-04  |          | 9.42E-03             |
| RL        | RL-T128                | 1.036-04  |          | J.42L-03             |
| RL        | RL-T129                | 5.32E-04  |          | 1.65E-03             |
| RL        |                        |           |          | 9.15E-08             |
| ΚL        | RL-T130                | 8.51E-06  |          | 9.10E-U8             |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Cita Cada       | WIDD ID            | 11.005            | 11,000 | 11.000            |
|-----------------|--------------------|-------------------|--------|-------------------|
| Site_Code<br>RL | WIPP_ID<br>RL-T131 | U-235<br>8.38E-04 | U-236  | U-238<br>1.72E-05 |
| RL              |                    |                   |        |                   |
| <b>-</b>        | RL-T132            | 1.09E-02          |        | 2.38E-01          |
| RL              | RL-T133            |                   |        |                   |
| RL              | RL-T134            | 7 405 00          |        | 4.005.04          |
| RL              | RL-T135            | 7.40E-06          |        | 4.62E-04          |
| RL              | RL-T137            | 2.79E-04          |        | 6.05E-03          |
| RL              | RL-T140            | 4.89E-02          |        | 2.93E+00          |
| RL              | RL-T143            | 2.36E-03          |        | 2.70E-02          |
| RL              | RL-T145<br>RL-W407 | 5.30E-03          |        | 1.24E-02          |
| RL              |                    |                   |        |                   |
| RL              | RL-W408            |                   |        |                   |
| RL              | RL-W415            |                   |        |                   |
| RL              | RL-W418            |                   |        |                   |
| RL              | RL-W438            |                   |        |                   |
| RL              | RL-W444            |                   |        |                   |
| RL              | RL-W447            |                   |        |                   |
| RL              | RL-W448            |                   |        |                   |
| RL              | RL-W449            |                   |        |                   |
| RL              | RL-W450            |                   |        |                   |
| RL              | RL-W451            |                   |        |                   |
| RL              | RL-W452            |                   |        |                   |
| RL              | RL-W453            |                   |        |                   |
| RL              | RL-W454            |                   |        |                   |
| RL              | RL-W455            |                   |        |                   |
| RL              | RL-W456            |                   |        |                   |
| RL              | RL-W457            |                   |        |                   |
| RL              | RL-W458            |                   |        |                   |
| RL              | RL-W459            |                   |        |                   |
| RL              | RL-W460            |                   |        |                   |
| RL              | RL-W461            |                   |        |                   |
| RL              | RL-W462            |                   |        |                   |
| RL              | RL-W463            |                   |        |                   |
| RL              | RL-W464            |                   |        |                   |
| RL              | RL-W465            |                   |        |                   |
| RL              | RL-W466            |                   |        |                   |
| RL              | RL-W467            |                   |        |                   |
| RL              | RL-W468            |                   |        |                   |
| RL              | RL-W469            |                   |        |                   |
| RL              | RL-W470            |                   |        |                   |
| RL              | RL-W474            |                   |        |                   |
| RL              | RL-W476            |                   |        |                   |
| RL              | RL-W480            |                   |        |                   |
| RL              | RL-W481            |                   |        |                   |
| RL              | RL-W482            |                   |        |                   |
| RL              | RL-W483            |                   |        |                   |
| RL              | RL-W484            |                   |        |                   |
| RL              | RL-W485            |                   |        |                   |
| RL              | RL-W486            |                   |        |                   |
| RL              | RL-W487            |                   |        |                   |
| RL              | RL-W488            |                   |        |                   |
|                 |                    | -                 |        |                   |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID | U-235    | U-236     | U-238    |
|-----------|---------|----------|-----------|----------|
| RL        | RL-W489 |          |           |          |
| RL        | RL-W490 |          |           |          |
| RL        | RL-W491 |          |           |          |
| RL        | RL-W492 |          |           |          |
| RL        | RL-W493 |          |           |          |
| RL        | RL-W494 |          |           |          |
| RL        | RL-W495 |          |           |          |
| RL        | RL-W496 |          |           |          |
| RL        | RL-W497 |          |           |          |
| RL        | RL-W498 |          |           |          |
| RL        | RL-W499 |          |           |          |
| RL        | RL-W500 |          |           |          |
| RL        | RL-W501 |          |           |          |
| RL        | RL-W502 |          |           |          |
| RL        | RL-W503 |          |           |          |
| RL        | RL-W504 |          |           |          |
| RL        | RL-W505 |          |           |          |
| RL        | RL-W506 |          |           |          |
| RL        | RL-W507 |          |           |          |
| RL        | RL-W508 |          |           |          |
| RL        | RL-W509 |          |           |          |
| RL        | RL-W510 |          |           |          |
| RL        | RL-W511 | 1.19E-04 | 1.41E-05  | 9.80E-07 |
| RL        | RL-W512 |          |           |          |
| RL        | RL-W513 |          |           |          |
| RL        | RL-W514 |          |           |          |
| RL        | RL-W515 |          |           |          |
| RL        | RL-W516 |          |           |          |
| RL        | RL-W517 |          |           |          |
| RL        | RL-W518 |          |           |          |
| RL        | RL-W519 |          |           |          |
| RL        | RL-W520 |          |           |          |
| RL        | RL-W521 |          |           |          |
| RL        | RL-W522 |          |           |          |
| RL        | RL-W523 |          |           |          |
| RL        | RL-W524 |          |           |          |
| RL        | RL-W525 |          |           |          |
| RL        | RL-W526 |          |           |          |
| RL        | RL-W527 |          |           |          |
| RL        | RL-W528 |          |           |          |
| RL        | RL-W529 |          |           |          |
| RL        | RL-W530 |          |           |          |
| RL        | RL-W531 |          |           |          |
| RL        | RL-W532 |          |           |          |
| RL        | RL-W533 |          |           |          |
| RL        | RL-W534 |          |           |          |
|           |         |          |           |          |
| RL        | RL-W535 | 1 405 00 | 1 21 5 07 | 0.405.00 |
| RL        | RL-W536 | 1.40E-06 | 1.31E-07  | 9.12E-09 |
| RL        | RL-W537 | 9.39E-06 | 1.11E-06  | 7.76E-08 |
| RL        | RL-W538 |          |           |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| 011- 0-1- | WIDD ID | 11.005   | 11.000   | 11.000   |
|-----------|---------|----------|----------|----------|
| Site_Code | WIPP_ID | U-235    | U-236    | U-238    |
| RL        | RL-W539 |          |          |          |
| RL        | RL-W540 |          |          |          |
| RL        | RL-W541 |          |          |          |
| RL        | RL-W542 |          |          |          |
| RL        | RL-W543 |          |          |          |
| RL        | RL-W544 |          |          |          |
| RL        | RL-W545 |          |          |          |
| RL        | RL-W546 |          |          |          |
| RL        | RL-W547 |          |          |          |
| RL        | RL-W548 |          |          |          |
| RL        | RL-W549 |          |          |          |
| RL        | RL-W550 | 6.67E-06 | 7.89E-07 | 5.49E-08 |
| RL        | RL-W551 | 2.14E-06 |          | 4.30E-05 |
| RL        | RL-W552 |          |          |          |
| RL        | RL-W553 |          |          |          |
| RL        | RL-W554 |          |          |          |
| RL        | RL-W555 |          |          |          |
| RL        | RL-W563 |          |          |          |
| RL        | RL-W564 |          |          |          |
| RL        | RL-W565 |          |          |          |
| RL        | RL-W566 |          |          |          |
| RL        | RL-W567 |          |          |          |
| RL        | RL-W568 |          |          |          |
| RL        | RL-W569 |          |          |          |
| RL        | RL-W570 |          |          |          |
| RL        | RL-W571 |          |          |          |
| RL        | RL-W572 |          |          |          |
| RL        | RL-W573 |          |          |          |
| RL        | RL-W574 |          |          |          |
| RL        | RL-W575 |          |          |          |
| RL        | RL-W576 |          |          |          |
| RL        | RL-W579 |          |          |          |
| RL        | RL-W580 |          |          |          |
| RL        | RL-W581 |          |          |          |
| RL        | RL-W582 |          |          |          |
| RL        | RL-W583 |          |          |          |
| RL        | RL-W584 |          |          |          |
| RL        | RL-W585 |          |          |          |
| RL        | RL-W586 |          |          |          |
| RL        | RL-W587 |          |          |          |
| RL        | RL-W588 |          |          |          |
| RL        | RL-W589 |          |          |          |
| RL        | RL-W590 |          |          |          |
| RL        | RL-W591 |          |          |          |
| RL        | RL-W592 |          |          |          |
| RL        | RL-W593 |          |          |          |
| RL        | RL-W593 |          |          |          |
|           |         |          |          |          |
| RL        | RL-W595 |          |          |          |
| RL        | RL-W596 |          |          |          |
| RL        | RL-W597 |          |          |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Cita Carl | WIDD ID | 11.005   | 11.000 | 11.000   |
|-----------|---------|----------|--------|----------|
| Site_Code | WIPP_ID | U-235    | U-236  | U-238    |
| RL        | RL-W598 |          |        |          |
| RL        | RL-W599 |          |        |          |
| RL        | RL-W600 |          |        |          |
| RL        | RL-W601 |          |        |          |
| RL        | RL-W602 |          |        |          |
| RL        | RL-W603 |          |        |          |
| RL        | RL-W604 |          |        |          |
| RL        | RL-W605 |          |        |          |
| RL        | RL-W606 |          |        |          |
| RL        | RL-W607 |          |        |          |
| RL        | RL-W608 |          |        |          |
| RL        | RL-W610 |          |        |          |
| RL        | RL-W612 |          |        |          |
| RL        | RL-W615 |          |        |          |
| RL        | RL-W622 |          |        |          |
| RL        | RL-W625 |          |        |          |
| RL        | RL-W626 | 1.97E-06 |        | 1.36E-06 |
| RL        | RL-W627 |          |        |          |
| RL        | RL-W628 |          |        |          |
| RL        | RL-W629 |          |        |          |
| RL        | RL-W630 |          |        | 2.95E-06 |
| RL        | RL-W631 |          |        |          |
| RL        | RL-W632 |          |        |          |
| RL        | RL-W633 |          |        |          |
| RL        | RL-W634 |          |        |          |
| RL        | RL-W635 | 1.95E-04 |        |          |
| RL        | RL-W636 |          |        |          |
| RL        | RL-W637 |          |        |          |
| RL        | RL-W638 |          |        |          |
| RL        | RL-W639 |          |        |          |
| RL        | RL-W640 |          |        |          |
| RL        | RL-W641 |          |        |          |
| RL        | RL-W642 |          |        |          |
| RL        | RL-W643 |          |        |          |
| RL        | RL-W644 |          |        |          |
| RL        | RL-W645 |          |        |          |
| RL        | RL-W646 |          |        |          |
| RL        | RL-W647 |          |        |          |
| RL        | RL-W648 |          |        |          |
| RL        | RL-W649 |          |        |          |
| RL        | RL-W653 |          |        |          |
| RL        | RL-W654 |          |        |          |
| RL        | RL-W655 |          |        |          |
| RL        | RL-W656 |          |        |          |
| RL        | RL-W657 |          |        |          |
| RL        | RL-W659 |          |        |          |
| RL        | RL-W660 |          |        |          |
| RL        | RL-W661 |          |        |          |
| RL        | RL-W662 |          |        |          |
| RL        | RL-W665 |          |        |          |
|           | ļ.      | Į        |        |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Cita Cada       | WIDD ID            | LLOSE    | 11.006 | 11.000   |
|-----------------|--------------------|----------|--------|----------|
| Site_Code<br>RL | WIPP_ID<br>RL-W666 | U-235    | U-236  | U-238    |
| RL              |                    |          |        |          |
|                 | RL-W668            |          |        |          |
| RL              | RL-W669            |          |        |          |
| RL              | RL-W670            |          |        |          |
| RL              | RL-W671            |          |        |          |
| RL              | RL-W672            |          |        |          |
| RL              | RL-W673            | 4.045.07 |        | 0.005.05 |
| RL              | RL-W674            | 1.34E-07 |        | 6.69E-05 |
| RL              | RL-W675            | 4 475 00 |        | 0.005.00 |
| RL              | RL-W676            | 4.47E-09 |        | 2.23E-06 |
| RL              | RL-W677            | 8.99E-05 |        | 3.43E-03 |
| RL              | RL-W678            |          |        |          |
| RL              | RL-W679            |          |        |          |
| RL              | RL-W680            |          |        |          |
| RL              | RL-W681            |          |        |          |
| RL              | RL-W685            |          |        |          |
| RL              | RL-W689            |          |        |          |
| RL              | RL-W690            |          |        |          |
| RL              | RL-W691            |          |        |          |
| RL              | RL-W692            |          |        |          |
| RL              | RL-W693            |          |        |          |
| RL              | RL-W694            |          |        |          |
| RL              | RL-W695            |          |        |          |
| RL              | RL-W696            |          |        |          |
| RL              | RL-W697            |          |        |          |
| RL              | RL-W698            |          |        |          |
| RL              | RL-W699            |          |        |          |
| RL              | RL-W700            |          |        |          |
| RL              | RL-W702            |          |        |          |
| RL              | RL-W703            |          |        |          |
| RL              | RL-W704            |          |        |          |
| RL              | RL-W705            |          |        |          |
| RL              | RL-W706            |          |        |          |
| RL              | RL-W707            |          |        |          |
| RL              | RL-W708            |          |        |          |
| RL              | RL-W709            |          |        |          |
| RL              | RL-W710            |          |        |          |
| RL              | RL-W711            |          |        |          |
| RL              | RL-W712            |          |        |          |
| RL              | RL-W713            |          |        |          |
| RL              | RL-W714            |          |        |          |
| RL              | RL-W715            |          |        |          |
| RL              | RL-W716            |          |        |          |
| RL              | RL-W717            |          |        |          |
| RL              | RL-W718            |          |        |          |
| RL              | RL-W719            |          |        |          |
| RL              | RL-W720            |          |        |          |
| RL              | RL-W721            |          |        |          |
| RL              | RL-W723            |          |        |          |
| RL              | RL-W724            |          |        |          |
|                 |                    |          |        |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| RL RL-W725 RL RL-W726 RL RL-W727 RL RL-W728 RL RL-W730 RL RL-W730 RL RL-W731 RL RL-W731 RL RL-W733 RL RL-W733 RL RL-W735 RL RL-W735 RL RL-W735 RL RL-W736 RL RL-W736 RL RL-W736 RL RL-W736 RL RL-W737 RL RL-W737 RL RL-W737 RL RL-W738 RL RL-W738 RL RL-W738 RL RL-W738 RL RL-W740 RL RL-W740 RL RL-W740 RL RL-W740 RL RL-W741 RL RL-W740 RL RL-W741 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W745 RL RL-W751 RL RL-W746 RL RL-W756 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W755 RL RL-W756 RL RL-W756 RL RL-W757 RL RL-W757 RL RL-W757 RL RL-W758 RD RP-W755 S.63E-01 1.02E-01 1.22E-01 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.91E-03 SR T001-273A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 2.92E-06 5.08E-05 SR T001-773A-HET 3.08E-06 6.05E-05 SR W026-221F-HET 1.19E-04 8.36E-05 SR W027-773A-HET 3.08E-06 1.03E-03 SR W027-221F-HET 1.19E-04 8.36E-05 SR W027-772F-HET 3.76E-04 2.50E-04 SR W027-773A-HET 3.06E-04 2.50E-04 SR W027-772F-HET 1.19E-04 8.36E-05 SR W026-772F-HET 1.19E-04 8.36E-05 SR W026-772F-HET 1.19E-04 8.36E-05 SR W026-772F-HET 1.19E-04 8.36E-05 SR W026-772F-HET 1.19E-04 8.36E-05 SR W027-773A-HET 1.19E-04 8.36E-05 SR W027-772F-HET 1.19E-04 8.36E-05 SR W027-773A-HET 1.19E-04  | 0'1- 0-1- | WIDD ID       | 11.005   | 11.000   | 11.000   |
|--|-----------|---------------|----------|----------|----------|
| RL RL-W726   | Site_Code | WIPP_ID       | U-235    | U-236    | U-238    |
| RL RL-W727   |           |               |          |          |          |
| RL RL-W729   |           |               |          |          |          |
| RL RL-W730   |           |               |          |          |          |
| RL RL-W730   | RL        | RL-W728       |          |          |          |
| RL RL-W731   | RL        | RL-W729       |          |          |          |
| RL RL-W732   | RL        | RL-W730       |          |          |          |
| RL RL-W733 RL RL-W734 RL RL-W736 RL RL-W736 RL RL-W737 RL RL-W738 RL RL-W738 RL RL-W738 RL RL-W739 RL RL-W740 1.39E-07 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W742 RL RL-W745 RL RL-W745 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W747 RL RL-W748 RL RL-W748 RL RL-W748 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W755 5.63E-01 1.02E-01 1.29E-01 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-221H-HET 5.90E-04 4.39E-05 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 3.08E-05 SR T001-773A-HET 3.08E-05 SR T001-773A-HET 3.08E-05 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-221H-HET 1.19E-04 8.86E-05 SR W026-273A-HET 1.19E-04 4.58E-06 SR W027-221H-HET 1.19E-04 4.58E-06 SR W027-235F-HET 1.19E-04 4.58E-05 5.66E-04 4.58E-06 6.62E-05 SR W027-235F-HET 1.19E-04 4.58E-05 6.66E-05 SR W027-235F-HET 1.19 | RL        | RL-W731       | 1.22E-06 |          |          |
| RL RL-W735 RL RL-W736 RL RL-W737 RL RL-W738 RL RL-W739 RL RL-W740 1.39E-07 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W743 RL RL-W745 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W747 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W747 RL RL-W748 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W752 RL RL-W753 RL RL-W753 RD RP-W755 5.63E-01 1.02E-01 1.29E-01 1.29E-01 SA SA-W134 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221F-HET 2.29E-04 1.65E-04 SR T001-772F-HET 2.22E-04 1.65E-06 SR T001-773A-VIT 5.29E-06 SR T001-773A-VIT 5.29E-06 SR W026-221F-HET 1.39E-06 1.03E-05 SR W026-772F-HET 1.39E-06 1.03E-05 SR W026-772F-HET 1.39E-06 1.03E-05 SR W026-772F-HET 1.39E-06 1.03E-05 SR W027-221H-HET 5.05E-04 3.56E-05 SR W027-221H-HET 5.05E-04 3.56E-05 SR W027-221H-HET 5.05E-04 3.56E-05 SR W027-775-HET 1.39E-06 1.03E-05 3.66E-05 3.66E-04 WP WP-INW198. | RL        | RL-W732       |          |          |          |
| RL RL-W736 RL RL-W737 RL RL-W737 RL RL-W738 RL RL-W739 RL RL-W740 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W744 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W747 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W753 RL RL-W753 RN RD-W755 RL RL-W750 RL RL-W751 RL RL-W750 RR RP-W754 RD RP-W755 RD RP-W756  | RL        | RL-W733       |          |          |          |
| RL RL-W736 RL RL-W737 RL RL-W738 RL RL-W740 RL RL-W740 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W742 RL RL-W743 RL RL-W745 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W748 RL RL-W748 RL RL-W749 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W753 RF RP-W755 S.63E-01 1.02E-01 1.29E-01 1.29E-01 5.03E-03 3.35E-01 1.03E-03 5.03E-01 1.03E-03 5.03E-01 5.03E-01 5.03E-03 5.00E-03 7.96E-03 5.03E-01 5.03E-03 5.00E-03 5.00E | RL        | RL-W734       |          |          |          |
| RL RL-W737 RL RL-W738 RL RL-W740 1.39E-07 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W743 RL RL-W743 RL RL-W745 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W748 RL RL-W749 RL RL-W750 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RF RP-W755 5.63E-01 1.02E-01 1.29E+01 5.05E-03 SA SA-W134 1.09E-02 6.50E-03 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SA T001-221F-HET 2.97E-04 2.21E-04 SR T001-221F-HET 5.90E-04 4.39E-04 SR T001-773A-CLAS 3.43E-06 5.5E-06 SR T001-773A-VIT 5.29E-06 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 3.69E-06 SR W026-272F-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 8.86E-05 SR W026-273A-HET 1.19E-04 8.86E-05 SR W026-773A-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 3.69E-04 SR W026-773A-HET 5.05E-04 4.59E-04 SR W026-773A-HET 1.19E-04 8.86E-05 SR W026-272F-HET 1.19E-04 3.69E-04 SR W027-221F-HET 1.19E-04 3.69E-04 SR W027-221F-HET 1.19E-04 3.69E-04 SR W027-221F-HET 1.19E-04 3.69E-04 SR W027-773A-HET 1.19E-04 4.59E-05 SR W027-773A-HET 1.19E-04 4.59E-06 SR W027-773A-HET 1.19E-04 3.69E-04 SR W027-773A-HET 1.19E-04 4.59E-06 SR W027-773A-HET 1.19E-04 4.59E-06 SR W027-773A-HET 1.19E-04 4.59E-04 SR W027-773A-HET 1.19E-04 4.59E-05 SR W027-773A-HET 1.19E-04 4.59E-05 SR W027-773A-HET 1.19E-04 4.59E-05 SR W027-773A-HET 1.19E-04 1.68E-05 6.66E-04 WP WP-INW18.001 6.11E-04 1.68E-05 6.66E-04 WP WP-INW19.001 6.11E-04 1.68E-05 6.66E-04 WP WP-INW216.001-A 4.92E-02 1.95E-05 5.10E-00 WP WP-INW216.001-A 4.92E-02 1.95E-05 5.10E-00 WP WP-INW216.001-A 4.92E-02 1.95E-05 5.20E-06   | RL        | RL-W735       |          |          |          |
| RL RL-W738 RL RL-W740 1.39E-07 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W742 RL RL-W743 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W749 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RD RP-W754 1.48E-02 3.31E-03 3.35E-01 1.02E-01 1.29E+01 5.08E-03 5.08E-05 5.08E-01 1.03E-03 1.03E-03 5.08E-05 5.08E-01 5.08E-04 4.39E-04 5.08E-05 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E- | RL        | RL-W736       |          |          |          |
| RL RL-W738 RL RL-W740 1.39E-07 RL RL-W741 RL RL-W741 RL RL-W742 RL RL-W742 RL RL-W743 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W747 RL RL-W749 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RD RP-W754 1.48E-02 3.31E-03 3.35E-01 1.02E-01 1.29E+01 5.08E-03 5.08E-05 5.08E-01 1.03E-03 1.03E-03 5.08E-05 5.08E-01 5.08E-04 4.39E-04 5.08E-05 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E-06 5.08E-07 5.08E- | RL        | RL-W737       |          |          |          |
| RL RL-W740 1.39E-07 RL RL-W741   |           |               |          |          |          |
| RL RL-W740   |           |               |          |          |          |
| RL RL-W741 RL RL-W742 RL RL-W743 RL RL-W744 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W749 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 RL RL-W753 RP RP-W755 S-6.3E-01 1.02E-01 1.29E+01 SA SA-T001 SA SA-T001 SA SA-W134 SA SA-W134 SR T001-221F-HET SR T001-23F-HET SR T001-773A-CLAS SR T001-773A-CLAS SR T001-773A-HET SR W026-221F-HET SR W026-221F-HET SR W026-221F-HET SR W026-773A-HET SR W026-773A-HET SR W027-773A-HET SR W027-773A-HET SR W027-773A-HET SR W027-773A-HET SR W026-221F-HET SR W026-773A-HET SR W026-773A-HET SR W026-773A-HET SR W026-773A-HET SR W027-773A-HET SR W026-773A-HET SR W027-773A-HET SR W026-773A-HET SR W026 |           |               | 1 305-07 |          |          |
| RL RL-W742 RL RL-W743 RL RL-W746 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W748 RL RL-W750 RL RL-W750 RL RL-W751 RL RL-W752 RL RL-W752 RL RL-W753 RP RP-W754 RP-W755 S63E-01 1.02E-01 1.29E+01 SA SA-W134 SA-W134 SA-W134 SR T001-221F-HET SR T001-23F-HET SR T001-773A-CLAS SR T001-773A-HET SR W026-221H-HET SR W026-23F-HET SR W02 |           |               | 1.036-07 |          |          |
| RL RL-W744 RL RL-W745 RL RL-W746 RL RL-W746 RL RL-W747 RL RL-W748 RL RL-W749 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 SA SA-T001 SA SA-W134 SA-W134 SA  |           |               |          |          |          |
| RL RL-W744 RL RL-W745 RL RL-W746 RL RL-W747 RL RL-W748 RL RL-W748 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 3.08E-05 2.29E-05 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-221H-HET 8.90E-05 6.62E-05 SR W026-221H-HET 1.39E-06 1.03E-05 SR W026-221H-HET 1.19E-04 8.86E-05 SR W026-221H-HET 1.19E-04 8.86E-05 SR W026-773A-HET 1.39E-06 1.03E-06 SR W026-773A-HET 1.15E-03 8.59E-04 SR W027-221H-HET 1.15E-03 8.59E-04 SR W027-221H-HET 1.15E-04 1.35E-06 SR W027-271H-HET 1.50E-04 1.35E-06 SR W027-271H-HET 1.50E-04 1.35E-06 SR W027-271H-HET 1.50E-04 1.35E-07 SR W027-271H-HET 1.50E-04 1.35E-06 SR W027-773A-HET 1.50E-04 1.35E-07 SR W027-773A-HET 1.50E-04 1.35E-07 SR W027-773A-HET 1.50E-04 1.35E-04 SR W027-773A-HET 1.50E-04 1.35E-04 SR W027-773A-HET 1.50E-04 1.35E-04 SR W027-773A-HET 1.50E-04 1.35E-04 SR W027-773A-HET 1.50E-05 1.03E-06 SR W027-999-HET 3.36E-05 1.02E-07 2.97E-06 WP WP-INW169.001 5.28E-05 1.02E-07 2.97E-06 WP WP-INW198.001 2.47E-05 1.81E-07 4.82E-05 WP WP-INW160.001-B 8.65E-03 5.28E-06 3.82E-06 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.82E-02 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.85E-00  |           |               |          |          |          |
| RL RL-W746 RL RL-W747 RL RL-W748 RL RL-W748 RL RL-W750 RL RL-W751 RL RL-W753 RP RP-W754 RP-W755 SA SA-T001 SA SA-W134 SR T001-221F-HET SR T001-773A-HET SR W026-235F-HET SR W026-775-HET SR W026-775-HET SR W026-775-HET SR W026-775-HET SR W027-775-HET SR W026-105-SR SR W027-775-HET SR W026-235F-HET SR W026-235F-HET SR W026-775-HET SR W027-725-HET SR W027-775-HET SR W027-775-HET SR W027-775-HET SR W027-725-HET SR W027-775-HET SR W027-775-HET SR W027-775-HET SR W027-799-HET SR W027-775-HET SR W027-775-HET SR W027-799-HET SR W027-775-HET SR W027-799-HET SR W027-775-HET SR W025-04 SR W027-775-HET SR W025-04 SR W027-775-HET SR W025-04 SR W027-775-HET SR W025-04 SR W027-775-HET SR W025-05 SR W025-07 SR W025-07 SR W025-07 SR W025-07 SR W025-07 SR W025-07 SR W053-773-VIT SR W053-773 |           | _             |          |          |          |
| RL RL-W747 RL RL-W748 RL RL-W750 RL RL-W751 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-235F-HET 2.80E-05 2.08E-05 SR T001-772F-HET 2.22E-04 1.65E-04 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-WIT 5.29E-05 SR W006-773A-VIT 5.29E-05 SR W026-221H-HET 8.90E-05 6.62E-05 SR W026-235F-HET 1.39E-06 1.03E-06 SR W026-271F-HET 1.39E-06 1.03E-06 SR W026-272F-HET 1.39E-06 1.03E-06 SR W026-272F-HET 1.39E-06 1.03E-06 SR W026-272F-HET 1.39E-06 1.03E-06 SR W026-273F-HET 1.39E-06 1.03E-06 SR W026-772F-HET 1.39E-06 1.03E-06 SR W027-221F-HET 1.39E-06 1.03E-06 SR W027-221F-HET 1.39E-06 1.03E-06 SR W027-221F-HET 1.50E-04 3.76E-04 SR W027-221F-HET 1.50E-04 3.76E-04 SR W027-221F-HET 1.52E-04 1.13E-04 SR W027-221F-HET 1.52E-04 1.13E-04 SR W027-23F-HET 1.52E-04 1.13E-04 SR W027-777A-HET 5.05E-04 3.76E-04 SR W027-777A-HET 5.05E-04 3.76E-04 SR W027-777A-HET 1.52E-04 1.13E-04 SR W027-777A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.13E-07 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.13E-07 SR W027-999-HET 3.36E-05 2.50E-04 SR W027-999-HET 3.36E-05 1.02E-07 2.97E-06 WP WP-INW169.001 5.28E-05 1.02E-07 4.82E-05 WP WP-INW216.001-A 4.92E-02 1.95E-05 2.10E+00 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.95E+00 WP WP-INW216.001-A 4.92E-02 1.95E-05 2.10E+00 WP WP-INW216.001-A 4.92E-02 1.95E-05 2.10E+00 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.95E+00   | RL        |               |          |          |          |
| RL RL-W749 RL RL-W750 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-273F-HET 2.80E-05 2.08E-05 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-LAS 3.43E-06 2.55E-06 SR W006-773A-VIT 5.29E-06 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-221F-HET 1.39E-06 1.03E-06 SR W026-773A-HET 3.78E-07 2.81E-07 SR W026-773A-HET 3.78E-07 2.81E-07 SR W026-773A-HET 1.52E-04 1.13E-04 SR W027-221F-HET 1.52E-04 1.36E-04 SR W027-221F-HET 1.52E-04 1.36E-04 SR W027-773A-HET 3.78E-07 2.81E-07 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 5.05E-04 3.76E-04 SR W027-773A-HET 5.05E-04 3.76E-04 SR W027-773A-HET 5.05E-04 3.76E-04 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 3.66E-04 2.55E-06 SR W027-773A-HET 3.66E-04 2.55E-04 SR W027-775-HET 3.76E-04 2.05E-04 SR W027-773A-HET 3.66E-05 SR W027-775-HET 3.66E-05 SR W027-99-HET 3.66E-05 SR W028-99-10-100 |           |               |          |          |          |
| RL RL-W749 RL RL-W750 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221F-HET 5.90E-04 4.39E-04 SR T001-235F-HET 2.80E-05 2.08E-05 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 3.08E-05 2.29E-05 SR W006-773A-VIT 5.29E-06 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-235F-HET 3.98E-07 2.81E-07 SR W026-775A-HET 3.78E-07 2.81E-07 SR W026-775A-HET 1.52E-04 1.03E-06 SR W026-775A-HET 1.52E-04 1.03E-06 SR W026-775A-HET 1.52E-04 1.35E-06 SR W026-775A-HET 1.52E-04 1.35E-06 SR W026-775A-HET 1.52E-04 1.35E-06 SR W027-221F-HET 1.55E-04 3.76E-04 SR W027-235F-HET 1.55E-04 3.76E-04 SR W027-773A-HET 5.05E-04 3.76E-04 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.35E-04 SR W027-793P-HET 1.52E-04 1.35E-04 SR W027-793A-HET 1.52E-04 1.05E-04 SR W027-793B-HET 1.52E-04 1.05E-04 SR W027-773A-HET 1.52E-04 1.05E-04 SR W027-773A-HET 1.52E-04 1.05E-04 SR W027-773A-HET 1.52E-04 1.05E-04 SR W027-773A-HET 1.52E-04 1.05E-04 SR W027-999-HET 3.36E-04 2.50E-04 SR W027-999-HET 3.36E-04 2.50E-04 SR W027-999-HET 3.36E-04 2.50E-04 SR W027-999-HET 3.36E-05 1.02E-07 2.97E-06 WP WP-INW169.001 5.28E-05 1.02E-07 2.97E-06 WP WP-INW160.001-A 4.92E-02 1.95E-05 2.10E+00 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.95E+00 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.95E+00  |           |               |          |          |          |
| RL RL-W750 RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-235F-HET 2.20E-04 1.65E-04 SR T001-772F-HET 2.22E-04 1.65E-04 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 3.08E-05 2.29E-05 SR W006-773A-VIT 5.29E-06 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-221H-HET 3.78E-07 2.81E-07 SR W026-772F-HET 1.39E-06 1.03E-06 SR W026-772F-HET 1.5E-03 8.59E-04 SR W027-727F-HET 1.5E-04 3.76E-04 SR W027-221F-HET 1.5E-04 3.76E-04 SR W027-727F-HET 1.55E-04 1.13E-04 SR W027-73A-HET 5.05E-04 2.05E-04 SR W027-73A-HET 1.52E-04 1.13E-04 SR W027-73A-HET 1.52E-04 1.13E-04 SR W027-73A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.13E-04 SR W027-773A-HET 1.52E-04 1.05E-04 SR W027-773A-HET 1.52E-05 1.02E-07 2.97E-06 WP WP-INW198.001 2.47E-05 1.81E-07 4.82E-05 WP WP-INW198.001 2.47E-05 1.81E-07 4.82E-05 WP WP-INW211.001 6.11E-04 1.68E-05 6.66E-04 WP WP-INW211.001 6.11E-04 1.68E-05 6.66E-04 WP WP-INW211.001 6.11E-04 1.68E-05 6.66E-04 WP WP-INW216.001-B 8.65E-03 5.28E-06 3.82E-02 WP WP-INW218.001-A 4.82E-02 1.70E-06 3.95E+00   |           |               |          |          |          |
| RL RL-W751 RL RL-W752 RL RL-W753 RP RP-W754 1.48E-02 3.31E-03 3.35E-01 RP RP-W755 5.63E-01 1.02E-01 1.29E+01 SA SA-T001 2.39E-08 5.90E-10 SA SA-W134 1.09E-02 6.50E-08 7.96E-03 SA SA-W134M 1.41E-03 8.45E-09 1.03E-03 SR T001-221F-HET 2.97E-04 2.21E-04 SR T001-221H-HET 5.90E-04 4.39E-04 SR T001-725H-HET 2.20E-04 1.65E-04 SR T001-772F-HET 2.22E-04 1.65E-04 SR T001-773A-CLAS 3.43E-06 2.55E-06 SR T001-773A-HET 3.08E-05 2.29E-05 SR W006-773A-VIT 5.29E-06 SR W026-221F-HET 1.19E-04 8.86E-05 SR W026-221H-HET 8.90E-05 6.62E-05 SR W026-221H-HET 8.90E-05 6.62E-05 SR W026-772F-HET 3.78E-07 2.81E-07 SR W026-772F-HET 1.39E-06 1.03E-06 SR W026-773A-HET 5.05E-04 3.76E-04 SR W027-221F-HET 1.15E-03 8.59E-04 SR W027-235F-HET 1.52E-04 1.13E-04 SR W027-773A-HET 5.05E-04 2.05E-04 SR W027-773A-HET 3.76E-04 2.05E-04 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 3.06E-04 SR W027-773A-HET 3.50E-04 1.03E-06 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 1.03E-06 SR W027-773A-HET 3.50E-04 1.03E-06 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 1.03E-05 SR W027-773A-HET 3.50E-04 1.03E-06 SR W027-773A-HET 3.50E-04 3.76E-04 SR W027-773A-HET 3.50E-04 1.03E-06 SR W027-773A-HET 3.50E-04 1.03E-07 SR W027-773A-HET 3.50E-04 1.03E-07 SR W027-773A-HET 3.50E-04 1.03E-07 SR W027-773A-HET 3.50E-04 1.03E-04 SR W027-773A-HET 3.50E-04 1.03E-05 SR W027-773A-HET 3.50E-04 1.03E-04 SR W027-775B-HET 3.50E-04 1.03E-04 SR W027-999-HET 3.36E-04 2.50E-04 SR W027-999-HET 3.36E-04 2.50E | RL        | _             |          |          |          |
| RL         RL-W753         RP         RP-W754         1.48E-02         3.31E-03         3.35E-01           RP         RP-W755         5.63E-01         1.02E-01         1.29E+01           SA         SA-T001         2.39E-08         5.90E-10           SA         SA-W134         1.09E-02         6.50E-08         7.96E-03           SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221F-HET         1.15E-03         8.59E-04           <  | RL        |               |          |          |          |
| RP         RP-W754         1.48E-02         3.31E-03         3.35E-01           RP         RP-W755         5.63E-01         1.02E-01         1.29E+01           SA         SA-T001         2.39E-08         5.90E-10           SA         SA-W134         1.09E-02         6.50E-08         7.96E-03           SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-77F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06         5           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-773A-HET         1.39E-06         1.03E-06           SR         W026-773H-HET         1.59E-04         4.58E-06           SR         W027-22H-HET         1.15E-03         8.59E-04           SR         W027-  |           |               |          |          |          |
| RP         RP-W755         5.63E-01         1.02E-01         1.29E+01           SA         SA-T001         2.39E-08         5.90E-10           SA         SA-W134         1.09E-02         6.50E-08         7.96E-03           SA         SA-W134M         1.41E-03         8.45E-09         1.03E-03           SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-72F-HET         1.52E-04         1.13E-04           SR         W027-778-HET   |           |               | 4 405 00 | 2 245 02 | 2.255.04 |
| SA         SA-T001         2.39E-08         5.90E-10           SA         SA-W134         1.09E-02         6.50E-08         7.96E-03           SA         SA-W134M         1.41E-03         8.45E-09         1.03E-03           SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-773F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-73A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221F-HET         1.39E-06         1.03E-06           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221F-HET         1.52E-04         1.13E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773A-HET         2.76E-04 <td></td> <td></td> <td></td> <td></td> <td></td>  |           |               |          |          |          |
| SA         SA-W134M         1.41E-03         8.45E-09         1.03E-03           SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221F-HET         1.39E-06         1.03E-06           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773A-HET         2.76E-04         2.05E-04           SR         W027-999-HET         3.36E-04 <td< td=""><td></td><td></td><td></td><td></td><td>1.202101</td></td<>  |           |               |          |          | 1.202101 |
| SR         T001-221F-HET         2.97E-04         2.21E-04           SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-73A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773A-HET         2.76E-04         2.05E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W027-999-HET         3.26E-05         1.02E-07  |           |               | 1.09E-02 |          |          |
| SR         T001-221H-HET         5.90E-04         4.39E-04           SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-73A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773A-HET         2.76E-04         2.05E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W027-999-HET         3.26E-05         1.02E-07  |           |               |          |          | 1.03E-03 |
| SR         T001-235F-HET         2.80E-05         2.08E-05           SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773A-HET         2.76E-04         2.05E-04           SR         W027-99-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW198.001         5.28E-05         1.02E-07         2.97E-06 <td></td> <td></td> <td></td> <td></td> <td></td>   |           |               |          |          |          |
| SR         T001-772F-HET         2.22E-04         1.65E-04           SR         T001-773A-CLAS         3.43E-06         2.55E-06           SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-773-HET         2.76E-04         2.05E-04           SR         W027-773-HET         3.36E-04         2.50E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW198.001         5.28E-05         1.02E-07         2.97E-06 <td></td> <td></td> <td></td> <td></td> <td></td>  |           |               |          |          |          |
| SR         T001-773A-HET         3.08E-05         2.29E-05           SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-775-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         4.82E-05           WP         WP-INW198.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B  |           |               | 2.22E-04 |          |          |
| SR         W006-773A-VIT         5.29E-06           SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-775-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         WP           WP INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B  | SR        |               |          |          |          |
| SR         W026-221F-HET         1.19E-04         8.86E-05           SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         WP           WP INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02  |           |               |          | 2.29E-05 |          |
| SR         W026-221H-HET         8.90E-05         6.62E-05           SR         W026-235F-HET         1.39E-06         1.03E-06           SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-77F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         WP           WP INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  |           |               |          | 8.86E-05 |          |
| SR         W026-772F-HET         3.78E-07         2.81E-07           SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         WP           WP INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00   | SR        | W026-221H-HET |          |          |          |
| SR         W026-773A-HET         6.16E-06         4.58E-06           SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06         WP           WP WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00   |           |               |          |          |          |
| SR         W027-221F-HET         1.15E-03         8.59E-04           SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00   |           |               |          |          |          |
| SR         W027-221H-HET         5.05E-04         3.76E-04           SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  |           |               |          |          |          |
| SR         W027-235F-HET         1.52E-04         1.13E-04           SR         W027-772F-HET         2.76E-04         2.05E-04           SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00   |           | _             |          |          |          |
| SR         W027-773A-HET         4.12E-04         3.06E-04           SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00   | SR        | W027-235F-HET | 1.52E-04 | 1.13E-04 |          |
| SR         W027-999-HET         3.36E-04         2.50E-04           SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  | SR        |               |          |          |          |
| SR         W053-773A-VIT         3.94E-06           WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  |           |               |          |          |          |
| WP         WP-INW169.001         5.28E-05         1.02E-07         2.97E-06           WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  |           |               |          | ∠.50⊏-04 |          |
| WP         WP-INW198.001         2.47E-05         1.81E-07         4.82E-05           WP         WP-INW211.001         6.11E-04         1.68E-05         6.66E-04           WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  | WP        |               |          | 1.02E-07 | 2.97E-06 |
| WP         WP-INW216.001-A         4.92E-02         1.95E-05         2.10E+00           WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  | WP        |               |          |          |          |
| WP         WP-INW216.001-B         8.65E-03         5.28E-06         3.82E-02           WP         WP-INW218.001-A         4.81E-02         1.70E-06         3.95E+00  | WP        |               |          |          |          |
| WP WP-INW218.001-A 4.81E-02 1.70E-06 3.95E+00  |           |               |          |          |          |
|  | WP        |               |          |          |          |
|  | WP        |               |          |          |          |

Table E-1. Scaled Volume and Activities for Selected Radionuclides for Each CH Waste Stream

| Site_Code | WIPP_ID              | U-235    | U-236    | U-238    |
|-----------|----------------------|----------|----------|----------|
| WP        | WP-INW222.001        | 7.60E-05 | 4.55E-07 | 5.37E-03 |
| WP        | WP-INW243.001        | 2.68E-04 | 1.92E-06 | 1.35E-04 |
| WP        | WP-INW247.001R1      | 3.89E-06 | 3.74E-06 | 1.45E-12 |
| WP        | WP-INW276.001        | 2.92E-07 | 9.25E-07 | 3.46E-13 |
| WP        | WP-INW276.002        | 6.58E-07 | 1.39E-06 | 5.14E-13 |
| WP        | WP-INW276.003        | 2.89E-05 | 2.02E-05 | 7.60E-07 |
| WP        | WP-INW276.004        | 2.26E-05 | 4.27E-06 | 1.61E-12 |
| WP        | WP-INW296.001-A      | 6.25E-06 | 1.07E-06 | 4.37E-13 |
| WP        | WP-INW296.001-B      | 9.17E-05 | 3.77E-06 | 1.18E-04 |
| WP        | WP-LA-TA-55-19.01-A  | 1.35E-04 | 3.01E-08 | 6.30E-15 |
| WP        | WP-LA-TA-55-19.01-B  | 6.40E-05 | 3.10E-06 | 5.10E-05 |
| WP        | WP-LA-TA-55-43.01    | 1.27E-09 | 1.62E-08 | 2.03E-13 |
| WP        | WP-RF001.01          | 2.57E-03 | 4.17E-05 | 7.68E-05 |
| WP        | WP-RF002.01-A        | 7.30E-04 | 1.56E-05 | 5.13E-04 |
| WP        | WP-RF002.01-B        | 2.47E-09 | 1.69E-08 | 7.04E-15 |
| WP        | WP-RF003.01          | 1.68E-04 | 2.99E-04 | 6.72E-06 |
| WP        | WP-RF004.01          | 4.05E-06 | 1.39E-07 | 3.57E-08 |
| WP        | WP-RF005.01          | 5.78E-05 | 1.26E-04 | 4.06E-11 |
| WP        | WP-RF005.02          | 2.00E-05 | 7.46E-05 | 7.98E-08 |
| WP        | WP-RF006.01          | 2.40E-04 | 1.46E-03 | 1.09E-07 |
| WP        | WP-RF008.01          | 1.85E-05 | 6.42E-05 | 1.19E-08 |
| WP        | WP-RF009.01          | 3.87E-04 | 1.35E-03 | 1.64E-06 |
| WP        | WP-RF010.01          | 2.24E-05 | 2.61E-06 | 7.43E-06 |
| WP        | WP-RF029.01-A        | 2.34E-05 | 3.67E-07 | 2.06E-07 |
| WP        | WP-RF029.01-B        | 7.23E-05 | 2.91E-07 | 6.39E-07 |
| WP        | WP-RF118.01          | 6.41E-03 | 1.03E-03 | 5.53E-05 |
| WP        | WP-RLMPDT.001        | 7.26E-09 | 5.70E-08 | 3.12E-14 |
| WP        | WP-RLNPDT.002        | 1.43E-07 | 1.15E-06 | 6.24E-13 |
| WP        | WP-SR2001.001.00     | 1.35E-08 | 8.06E-08 | 4.13E-14 |
| WP        | WP-SR-W027-221F-HETA | 6.23E-05 | 1.63E-07 | 1.51E-02 |
| Total:    |                      | 3.90E+00 | 1.47E+00 | 7.91E+01 |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP_ID         | Volume | Am-241   | Am-243   | Cm-244   | Cs-137   | Np-237   | Pu-238   | Pu-239   | Pu-240   | Pu-241   |
|-----------|-----------------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| AE        | AE-T009         | 104.78 |          | 2.78E-05 | 1.64E-01 | 3.99E+01 | 1.45E-03 |          | 1.54E+01 | 3.36E+00 | 2.61E+01 |
| AW        | AW-T031.1322    | 22.99  | 5.34E-01 | 2.62E-04 | 2.16E-03 | 8.20E+03 | 8.49E-04 | 5.79E-01 | 1.99E-03 | 9.56E+00 | 1.59E+01 |
| AW        | AW-W012.10      | 17.62  | 4.10E-01 | 2.01E-04 | 1.65E-03 | 5.19E+02 | 6.51E-04 | 4.44E-01 | 1.16E+01 | 7.33E+00 | 1.22E+01 |
| AW        | AW-W020.13      | 18.32  | 7.49E+00 |          |          | 3.20E+02 | 1.50E-04 |          | 1.03E+01 | 3.22E+00 | 6.74E+02 |
| AW        | AW-W026         | 6.23   | 1.11E+00 |          |          | 1.25E+00 | 2.17E-06 |          | 1.97E-01 |          |          |
| AW        | AW-W028         | 9.44   |          |          |          | 2.54E+00 |          |          | 2.52E-01 | 1.33E-02 |          |
| AW        | AW-W046         | 2.30   | 4.10E-01 |          |          | 5.74E+02 | 8.01E-07 |          | 9.19E-02 |          |          |
| AW        | AW-W047         | 2.30   | 4.10E-01 |          |          | 1.05E+02 | 8.01E-07 |          | 6.25E-04 |          |          |
| AW        | AW-W048         | 3.83   | 6.83E-01 |          |          | 1.37E+03 | 1.33E-06 |          | 3.32E-04 |          |          |
| ВС        | BCLRH-MT01      | 0.89   | 2.55E+00 | 1.91E-02 | 2.06E+00 | 5.09E+01 | 2.31E-04 | 2.46E+00 | 3.16E-01 | 5.14E-01 | 4.15E+01 |
| BC        | BCLRH-T001      | 0.89   | 1.77E-02 | 1.33E-04 | 1.42E-02 | 3.53E-01 | 1.59E-06 | 1.71E-02 | 2.19E-03 | 3.57E-03 | 2.87E-01 |
| ВС        | BCLRH-T002      | 1.78   | 9.49E-01 |          | 4.95E-01 | 8.33E-01 |          | 1.11E+00 | 1.17E-01 | 1.90E-01 |          |
| ВС        | BCLRH-T003      | 16.79  | 2.40E+00 | 1.80E-02 | 1.93E+00 | 4.78E+01 | 2.17E-04 | 2.30E+00 | 2.97E-01 | 4.83E-01 | 3.89E+01 |
| ВС        | BCLRH-T004      | 15.01  | 6.90E+01 | 5.16E-01 | 5.55E+01 | 1.37E+03 | 6.23E-03 | 6.65E+01 | 8.54E+00 | 1.40E+01 | 1.12E+03 |
| ВС        | BCLRH-T005      | 0.89   | 3.64E+00 | 2.71E-02 | 2.93E+00 | 7.24E+01 | 3.28E-04 | 3.51E+00 | 4.49E-01 | 7.32E-01 | 5.91E+01 |
| ВС        | BCLRH-T006      | 0.89   | 8.53E-01 | 6.38E-03 | 6.86E-01 | 1.70E+01 | 7.70E-05 | 8.21E-01 | 1.06E-01 | 1.73E-01 | 1.39E+01 |
| ВС        | BCLRH-T007      | 0.89   | 7.05E-03 | 5.26E-05 | 5.68E-03 | 1.41E-01 | 6.35E-07 | 6.78E-03 | 8.71E-04 | 1.42E-03 | 1.15E-01 |
| ВС        | BCLRH-T008      | 0.89   | 8.40E-02 | 6.28E-04 | 6.78E-02 | 1.68E+00 | 7.58E-06 | 8.11E-02 | 1.04E-02 | 1.70E-02 | 1.37E+00 |
| ВС        | BCLRH-T009      | 1.78   | 5.66E-01 | 4.24E-03 | 4.56E-01 | 1.13E+01 | 5.11E-05 | 5.47E-01 | 7.01E-02 | 1.14E-01 | 9.18E+00 |
| ВС        | BCLRH-T010      | 0.89   | 4.99E+00 | 6.97E-02 | 3.66E+00 | 7.16E+02 | 4.47E-03 | 1.49E-02 | 1.27E-03 | 1.56E-02 | 1.75E-01 |
| BC        | BCLRH-T011      | 4.45   | 5.96E-02 |          | 2.39E-02 | 7.16E-01 |          | 3.52E-02 | 1.33E-02 |          |          |
| BT        | BT-T001         | 2.00   | 2.54E+00 | 1.19E-02 | 7.64E-01 | 6.44E+03 | 1.69E-02 | 2.80E+02 | 2.18E-01 | 4.46E-01 | 4.76E+01 |
| ET        | ET-R1-DLR       | 4.13   | 9.43E-02 |          |          | 9.77E+00 | 2.39E-07 | 1.48E-02 | 6.06E-01 | 1.13E-01 | 3.51E-01 |
| ET        | ET-R2-D107      | 0.89   | 5.52E-01 |          |          | 5.12E-02 | 2.41E-06 |          | 4.62E-01 | 1.62E-01 | 1.86E+00 |
| IN        | IN-AE-AGHC-01   | 184.23 | 2.94E-01 |          |          | 1.96E+02 | 3.54E-07 |          | 1.90E+01 | 7.64E+00 | 2.21E+01 |
| IN        | IN-AW-161       | 0.89   |          |          |          | 6.37E-01 |          |          | 2.46E+00 | 5.26E-02 |          |
| IN        | IN-INTEC-SFS-01 | 0.89   | 5.82E-01 |          |          | 5.12E+00 | 7.01E-07 | 2.00E+00 | 2.42E-01 | 2.80E-01 | 4.38E+01 |
| IN        | IN-NRF-153      | 8.90   | 4.72E-03 |          |          |          | 5.69E-09 |          | 3.60E-03 | 3.90E-03 | 3.55E-01 |
| IN        | IN-TRA-150      | 2.67   | 2.88E+01 |          |          |          | 6.56E-05 | 3.18E+01 |          |          |          |
| IN        | IN-TRA-157      | 3.56   | 1.86E-01 |          |          | 2.48E-01 | 4.23E-07 | 1.56E-01 | 4.34E-03 |          |          |
| IN        | IN-W358.949     | 6.06   |          |          |          |          |          | 2.67E+03 | 1.28E+01 | 2.46E+01 |          |
| IN        | IN-W372.918     | 11.90  | 4.17E-01 |          |          | 5.58E-01 | 9.51E-07 | 3.51E-01 | 9.76E-03 |          |          |
| KA        | KA-T001         | 105.74 | 2.38E-02 | 4.13E-05 | 1.18E-03 | 6.02E+01 | 6.65E-04 | 2.21E+00 | 5.91E-03 | 1.48E-03 | 2.10E-01 |
| KA        | KA-W016         | 10.73  |          | 4.19E-06 | 1.20E-04 | 6.12E+00 | 6.77E-05 | 2.26E-01 | 6.01E-04 | 1.50E-04 | 2.14E-02 |
| LA        | LA-TA-03-27     |        | 2.49E-02 |          |          | 1.57E+01 | 1.57E-07 |          | 2.53E+00 |          | 2.24E-01 |
| OR        | OR-W211         |        |          |          | 7.22E+01 |          |          |          | 1.54E-02 |          | 4.45E+00 |
| OR        | OR-W212         |        | 3.22E+00 |          | 1.82E+02 | 7.11E+00 | 1.68E-05 |          | 3.88E-02 | 2.29E+00 | 1.12E+01 |
| OR        | OR-W213         |        | 9.03E-06 | 5.79E-09 | 2.68E-07 | 2.73E-04 | 1.43E-08 |          | 9.45E-06 | 9.45E-06 | 6.13E-06 |
| OR        | OR-W214         |        | 1.89E-01 |          | 9.43E-03 | 1.49E+00 | 3.58E-05 |          | 3.08E-01 | 2.39E-05 | = -:     |
| OR        | OR-W215         |        | 2.74E+02 |          | 7.67E+02 | 1.37E+04 | 1.52E-03 |          | 1.17E+02 | 2.62E+01 | 1.14E+02 |
| RL        | RL-T121         | 53.40  |          |          |          | 3.01E+01 |          | 9.53E-01 | 6.25E+00 | 3.11E+00 | 1.54E+02 |
| RL        | RL-T124         | 0.89   |          |          |          | 2.47E+01 |          | 5.045.01 | 0.405.00 | 4 705 00 | 0.045.00 |
| RL        | RL-T147         |        | 9.89E+00 |          |          | 2.07E+03 |          | 5.21E+01 |          | 1.70E+02 |          |
| RL        | RL-T148         | 24.03  |          |          |          | 3.97E+04 |          | 5.73E+01 | 3.75E+02 | 1.87E+02 |          |
| RL        | RL-T149         | 69.42  |          |          |          | 1.89E+03 |          | 2.70E-01 | 1.77E+00 | 8.82E-01 | 4.17E+01 |
| RL        | RL-W161         | 5.34   |          |          |          | 7.49E-01 |          | 1.10E-02 | 7.21E-02 | 3.59E-02 | 1.70E+00 |
| RL        | RL-W162         | 18.69  |          |          |          | 5.39E+00 |          | 1.14E-04 | 7.48E-04 | 3.72E-04 | 1.76E-02 |
| RL        | RL-W419         |        | 9.56E-05 |          |          |          |          | 3.92E-05 | 1.44E-03 | 3.22E-04 | 5.48E-03 |
| RL        | RL-W420         |        | 1.86E-02 |          |          |          |          | 6.00E-03 | 2.25E-01 | 5.05E-02 | 7.45E-01 |
| RL        | RL-W421         | 2/2.02 | 8.48E-03 |          |          |          |          | 3.48E-03 | 1.27E-01 | 2.85E-02 | 4.87E-01 |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP_ID       | Volume   | Am-241   | Am-243   | Cm-244   | Cs-137   | Np-237   | Pu-238   | Pu-239   | Pu-240   | Pu-241   |
|-----------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| RL        | RL-W428       | 18.39    | 3.26E-02 |          |          |          |          | 3.16E-02 | 3.87E-04 | 6.95E-04 | 1.70E+00 |
| RL        | RL-W433       | 37.55    | 6.66E-02 |          |          |          |          | 6.46E-02 | 7.90E-04 | 1.42E-03 | 3.48E+00 |
| RL        | RL-W436       | 420.68   | 6.17E+01 |          |          |          |          | 3.98E+01 | 2.49E+00 | 2.13E+00 |          |
| RL        | RL-W445       | 114.74   | 2.84E+02 |          |          | 1.27E+02 |          | 1.06E+02 | 8.15E-01 | 1.45E+00 | 3.30E+04 |
| RL        | RL-W446       | 22.25    | 2.21E+02 |          |          | 3.94E+01 |          | 2.45E+01 | 2.40E-01 | 5.20E-01 | 1.92E+04 |
| RL        | RL-W613       | 45.39    | 7.18E+01 |          |          | 4.17E+04 |          | 3.28E+00 | 6.30E+00 | 1.53E+00 | 4.77E+01 |
| RL        | RL-W614       | 33.52    | 3.10E+02 |          |          | 6.70E+04 |          | 1.53E+01 | 2.86E+00 | 2.79E+00 | 1.37E+02 |
| RL        | RL-W616       | 5.34     | 1.25E+01 |          |          | 2.96E+03 |          | 5.62E-01 | 1.75E-01 | 1.72E-01 | 8.04E+00 |
| RL        | RL-W617       | 1.78     | 5.87E-01 |          |          | 1.42E+02 |          | 2.66E-02 | 8.24E-03 | 8.05E-03 | 3.95E-01 |
| RL        | RL-W618       | 1.78     | 6.23E+00 |          |          | 5.34E+02 |          | 1.05E+00 | 1.39E-01 | 1.32E-01 | 4.49E+02 |
| RL        | RL-W619       | 24.92    | 2.83E+02 |          |          | 8.85E+04 |          | 2.00E+01 | 3.90E+00 | 3.83E+00 | 1.82E+02 |
| RL        | RL-W620       | 1.78     | 1.65E-01 |          |          | 3.97E+01 |          | 7.44E-03 | 2.31E-03 | 2.26E-03 | 1.11E-01 |
| RL        | RL-W621       | 12.46    | 7.79E-02 |          |          | 1.27E+01 |          | 1.37E-01 | 1.42E-02 | 2.59E-02 | 3.69E+00 |
| RL        | RL-W623       | 9.79     | 3.05E-01 |          |          | 3.15E+02 |          | 6.84E-02 | 1.15E-02 | 1.12E-02 | 5.26E-01 |
| RL        | RL-W658       | 37.67    | 8.68E-01 |          |          | 7.28E+01 |          | 3.20E+00 | 1.95E-01 | 3.85E-01 | 7.71E+01 |
| RL        | RL-W663       | 16.02    | 6.81E+02 |          |          | 8.07E+01 |          | 1.09E+02 | 6.08E+00 | 7.85E+00 | 3.41E+04 |
| RL        | RL-W664       | 2.67     | 1.41E-02 |          |          | 1.19E+00 |          | 5.20E-02 | 3.16E-03 | 6.25E-03 | 1.26E+00 |
| RL        | RL-W682       | 7.02     | 1.34E+01 |          |          | 1.54E+04 |          | 3.77E+00 | 4.21E+00 | 3.99E+00 | 7.30E+01 |
| RL        | RL-W683       | 0.89     | 3.76E+01 |          |          | 6.70E+03 |          | 6.75E+01 | 9.50E+01 | 6.52E+01 | 5.53E+03 |
| RL        | RL-W686       | 0.89     | 1.52E-03 |          |          | 2.14E-01 |          | 4.90E-04 | 3.43E-03 | 1.70E-03 | 5.49E-02 |
| RL        | RL-W687       | 0.89     | 9.52E-01 |          |          | 7.86E+00 |          | 2.94E-01 | 2.07E+00 | 1.03E+00 | 3.20E+01 |
| RL        | RL-W688       | 0.89     | 3.71E+00 |          |          | 1.84E+01 |          | 1.16E+00 | 8.11E+00 | 4.03E+00 | 1.26E+02 |
| RL        | RL-W701       | 0.89     | 2.86E-08 |          |          |          |          | 8.17E-09 | 3.11E-07 | 6.97E-08 | 9.34E-07 |
| RP        | RP-W013       | 525.10   | 2.40E+03 |          |          | 4.88E+04 | 5.99E-01 | 1.80E-01 | 3.07E+03 | 6.88E+02 | 1.80E+04 |
| RP        | RP-W016       | 3943.59  | 8.99E+03 |          |          | 7.53E+04 | 3.67E-02 | 9.90E+00 | 1.11E+03 | 3.36E+02 | 3.53E+02 |
| SA        | SA-W135       | 4.58     | 2.13E+01 |          | 4.16E-01 | 4.89E+02 | 9.04E-04 | 4.22E+00 | 2.84E+00 | 4.26E-01 | 2.48E-02 |
| SR        | T003-773A-HET | 19.49    |          | 3.57E-02 |          | 5.31E+01 |          | 3.09E+00 | 4.10E-06 |          |          |
| Total:    |               | 7.08E+03 | 1.38E+04 | 9.92E-01 | 1.09E+03 | 4.26E+05 | 6.70E-01 | 3.81E+03 | 5.24E+03 | 1.58E+03 | 1.31E+05 |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP ID                  | Pu-242               | Pu-244   | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234     | U-235                | U-236    |
|-----------|--------------------------|----------------------|----------|----------|----------|----------|----------|----------|-----------|----------------------|----------|
| AE        | AE-T009                  | F u-242              | Fu-244   | 2.25E+01 | 4.08E-07 | 8.64E-08 | 1.80E-15 | 1.61E-04 | 6.87E-04  | 1.37E-04             | 2.70E-06 |
| AW        | AW-T031.1322             | 2.67E-04             |          | 8.97E+03 |          | 1.70E-07 | 2.29E-14 | 2.48E-07 | 3.16E-03  | 1.99E-03             | 7.80E-05 |
| AW        | AW-W012.10               | 2.07E-04             |          | 4.54E+02 | 1.02E-10 | 1.70E-07 | 1.75E-14 | 1.90E-07 | 2.42E-03  | 7.90E-05             | 5.98E-05 |
| AW        | AW-W012.10<br>AW-W020.13 | 2.04L-04             |          | 6.21E+01 | 1.15E-04 | 2.08E-07 | 8.50E-17 | 2.05E-01 | 3.85E-03  | 2.60E-03             | 5.73E-07 |
| AW        | AW-W020.13               |                      |          | 4.46E+00 |          | 1.24E-15 | 6.50E-17 | 2.79E-11 | 4.61E-11  | 2.00E-03<br>2.02E-05 | 5.73⊑-07 |
| AW        |                          |                      |          |          | 5.24E-15 |          | 2.545.40 | 2.79E-11 |           |                      | 2.275.00 |
|           | AW-W028                  |                      |          | 7.06E+00 | 4 005 45 | 3.16E-15 | 3.51E-19 | 4 005 44 | 1.17E-10  | 1.30E-05             | 2.37E-09 |
| AW        | AW-W046                  |                      |          | 1.64E+00 |          | 4.59E-16 |          | 1.03E-11 | 1.70E-11  | 2.19E-04             |          |
| AW        | AW-W047                  |                      |          | 1.64E+00 |          | 4.59E-16 |          | 1.03E-11 | 1.70E-11  | 7.47E-06             |          |
| AW        | AW-W048                  | 4.545.00             |          | 1.49E+03 | 3.22E-15 | 7.65E-16 |          | 1.72E-11 | 2.84E-11  | 3.32E-04             | 4 705 04 |
| BC        | BCLRH-MT01               | 1.54E-03             |          | 3.35E+01 |          |          |          | 2.74E-08 | 8.80E-04  | 1.28E-05             | 1.70E-04 |
| BC        | BCLRH-T001               | 1.07E-05             |          | 2.31E-01 |          |          |          | 1.90E-10 | 6.11E-06  | 8.90E-08             | 1.18E-06 |
| BC        | BCLRH-T002               | ==                   |          | 3.37E+01 |          |          |          | 1.61E-08 | 5.20E-04  | 7.80E-06             | 1.03E-04 |
| BC        | BCLRH-T003               | 1.45E-03             |          | 3.14E+01 |          |          |          | 2.57E-08 | 8.26E-04  | 1.20E-05             | 1.60E-04 |
| BC        | BCLRH-T004               | 4.17E-02             |          | 9.05E+02 |          |          |          | 7.41E-07 | 2.37E-02  | 3.48E-04             | 4.61E-03 |
| BC        | BCLRH-T005               | 2.20E-03             |          | 4.74E+01 |          |          |          | 3.90E-08 | 1.25E-03  | 1.83E-05             | 2.43E-04 |
| BC        | BCLRH-T006               | 5.16E-04             |          | 1.12E+01 |          |          |          | 9.17E-09 | 2.94E-04  | 4.31E-06             | 5.70E-05 |
| BC        | BCLRH-T007               | 4.24E-06             |          | 9.26E-02 |          |          |          | 7.55E-11 | 2.43E-06  | 3.56E-08             | 4.70E-07 |
| BC        | BCLRH-T008               | 5.07E-05             |          | 1.10E+00 |          |          |          | 8.99E-10 | 2.90E-05  | 4.25E-07             | 5.62E-06 |
| BC        | BCLRH-T009               | 3.42E-04             |          | 7.42E+00 |          |          |          | 6.09E-09 | 1.96E-04  | 2.85E-06             | 3.79E-05 |
| BC        | BCLRH-T010               | 9.61E-06             |          | 3.87E+02 |          |          |          | 4.33E-07 | 5.38E-06  | 4.85E-08             | 1.05E-06 |
| BC        | BCLRH-T011               |                      |          | 3.87E-01 |          |          |          |          | 2.53E-05  | 9.03E-07             |          |
| BT        | BT-T001                  | 3.48E-03             | 1.99E-10 | 6.44E+03 |          |          | 1.69E-11 |          | 5.96E-01  | 7.84E-03             | 8.94E-02 |
| ET        | ET-R1-DLR                |                      |          | 9.48E+00 | 1.02E-15 | 1.44E-11 | 5.28E-18 | 4.08E-12 | 3.97E-07  | 8.99E-04             | 2.67E-08 |
| ET        | ET-R2-D107               |                      |          | 3.58E-02 | 3.12E-14 |          | 2.32E-17 | 7.19E-11 |           | 6.38E-09             | 6.72E-08 |
| IN        | IN-AE-AGHC-01            |                      |          |          | 6.11E-16 |          | 2.74E-16 | 3.65E-12 |           | 1.30E-03             | 1.59E-06 |
| IN        | IN-AW-161                |                      |          |          |          |          | 1.89E-18 |          |           | 1.46E-06             | 1.09E-08 |
| IN        | IN-INTEC-SFS-01          | 1.01E-03             |          |          | 1.21E-15 | 1.29E-09 | 1.01E-17 | 7.24E-12 | 4.08E-05  | 8.60E-06             | 5.82E-08 |
| IN        | IN-NRF-153               | 1.29E-05             |          |          | 9.83E-18 | 1.96E-10 | 1.40E-19 | 5.87E-14 | 6.18E-06  | 5.27E-05             | 8.08E-10 |
| IN        | IN-TRA-150               |                      |          |          | 2.16E-13 | 2.06E-08 |          | 9.88E-10 | 6.50E-04  |                      |          |
| IN        | IN-TRA-157               |                      |          |          | 1.40E-15 | 1.01E-10 |          | 6.37E-12 | 3.19E-06  | 3.00E-11             |          |
| IN        | IN-W358.949              |                      |          |          |          | 1.73E-06 | 8.84E-16 |          | 5.45E-02  | 8.86E-08             | 5.11E-06 |
| IN        | IN-W372.918              |                      |          |          | 3.13E-15 | 2.28E-10 |          | 1.43E-11 | 7.18E-06  | 6.74E-11             |          |
| KA        | KA-T001                  | 5.65E-06             | 1.34E-12 | 5.73E+01 | 7.50E-10 | 1.08E-06 | 3.23E-11 | 3.04E-07 | 3.76E-03  | 5.63E-05             | 5.34E-04 |
| KA        | KA-W016                  | 5.74E-07             | 1.36E-13 | 5.83E+00 | 7.63E-11 | 1.10E-07 | 3.28E-12 | 3.09E-08 | 3.83E-04  | 5.73E-06             | 5.43E-05 |
| LA        | LA-TA-03-27              | 1.64E-05             |          | 1.54E+01 | 6.13E-15 | 5.47E-09 | 1.53E-16 | 7.89E-12 | 2.03E-05  | 1.00E-04             | 1.12E-07 |
| OR        | OR-W211                  | 3.49E-03             | 3.39E-10 | 2.07E+01 | 1.26E-13 | 3.09E-10 | 1.68E-16 | 2.40E-10 | 3.95E-06  | 2.58E-10             | 4.16E-07 |
| OR        | OR-W212                  | 8.81E-03             | 8.55E-10 | 5.21E+01 | 3.19E-13 | 7.79E-10 | 4.25E-16 | 6.07E-10 | 9.97E-06  | 6.50E-10             | 1.05E-06 |
| OR        | OR-W213                  | 5.13E-09             |          | 1.98E-06 | 1.44E-07 | 2.68E-08 |          | 3.93E-07 | 3.37E-07  | 2.03E-09             |          |
| OR        | OR-W214                  |                      |          | 2.09E-01 | 5.71E-06 | 1.32E-10 | 1.96E-21 | 3.58E-03 | 1.70E-06  | 5.16E-09             | 6.67E-12 |
| OR        | OR-W215                  | 4.90E-02             | 5.53E-03 |          |          | 1.87E-03 | 8.77E-01 | 1.16E+02 | 1.23E+01  | 2.38E-01             | 4.22E-02 |
| RL        | RL-T121                  | 9.18E-05             |          | 2.81E+01 |          |          |          |          |           |                      |          |
| RL        | RL-T124                  |                      |          | 2.30E+01 |          |          | 1.39E-04 | 1.81E-01 |           |                      |          |
| RL        | RL-T147                  | 5.02E-03             |          | 1.93E+03 |          |          | 2.92E-04 | 5.10E-01 | 1.22E+00  | 1.19E-01             |          |
| RL        | RL-T148                  | 5.50E-03             |          | 3.71E+04 |          |          | 1.29E-03 | 2.69E-01 | 1.64E+00  | 1.60E-01             |          |
| RL        | RL-T149                  | 2.60E-05             |          | 1.84E+03 |          |          | 4.14E-02 | 7.57E+00 | 4.50E-03  | 4.62E-04             |          |
| RL        | RL-W161                  | 1.06E-06             |          | 6.95E-01 |          |          | 7.176-02 | 7.07E+00 | 7.00∟-03  | 7.026-04             |          |
| RL        | RL-W162                  | 1.10E-08             |          | 5.02E+00 |          |          |          |          | 1.71E-06  | 7.65E-08             |          |
| RL        | RL-W162<br>RL-W419       | 1.10E-08<br>1.94E-08 |          | J.UZE+UU |          |          |          |          | 1.7 15-00 | 7.00E-08             |          |
|           |                          |                      |          |          |          |          |          |          |           |                      |          |
| RL        | RL-W420                  | 3.04E-06             |          |          |          |          |          |          |           |                      |          |
| RL        | RL-W421                  | 1.72E-06             |          |          |          |          |          |          |           |                      |          |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP_ID       | Pu-242   | Pu-244   | Sr-90    | Th-229   | Th-230   | Th-232   | U-233    | U-234    | U-235    | U-236    |
|-----------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| RL        | RL-W428       | 3.53E-10 |          |          |          |          |          |          |          |          |          |
| RL        | RL-W433       | 7.21E-10 |          |          |          |          |          |          |          |          |          |
| RL        | RL-W436       | 1.58E-06 |          |          |          |          |          |          |          |          |          |
| RL        | RL-W445       |          |          | 1.31E+02 |          |          |          |          |          |          |          |
| RL        | RL-W446       | 3.74E-06 |          | 3.50E+01 |          |          |          |          |          |          |          |
| RL        | RL-W613       | 5.81E-02 |          | 2.04E+04 |          |          |          |          |          |          |          |
| RL        | RL-W614       | 4.66E-03 |          | 5.01E+04 |          |          |          |          |          |          |          |
| RL        | RL-W616       | 2.87E-04 |          | 2.94E+03 |          |          |          |          |          |          |          |
| RL        | RL-W617       | 1.34E-05 |          | 1.41E+02 |          |          |          |          |          |          |          |
| RL        | RL-W618       | 2.18E-06 |          | 2.08E+01 |          |          |          |          |          |          |          |
| RL        | RL-W619       | 5.89E-03 |          | 5.55E+04 |          |          |          |          |          |          |          |
| RL        | RL-W620       | 3.78E-06 |          | 3.96E+01 |          |          |          |          |          |          |          |
| RL        | RL-W621       | 1.07E-04 |          | 8.17E+00 |          |          |          |          |          |          |          |
| RL        | RL-W623       | 1.87E-05 |          | 1.69E+02 |          |          |          |          |          |          |          |
| RL        | RL-W658       |          |          | 1.46E+02 |          |          |          |          |          |          |          |
| RL        | RL-W663       | 3.91E-03 |          | 4.92E+01 |          |          |          |          |          | 1.06E-04 |          |
| RL        | RL-W664       |          |          | 1.68E+00 |          |          |          |          |          |          |          |
| RL        | RL-W682       | 2.69E-03 |          | 5.87E+03 |          |          |          |          |          | 7.67E-06 |          |
| RL        | RL-W683       | 6.27E-02 |          | 2.45E+03 |          |          |          |          | 3.39E-03 | 2.64E-03 | 2.05E-04 |
| RL        | RL-W686       | 5.02E-08 |          | 1.94E-01 |          |          |          |          |          |          |          |
| RL        | RL-W687       | 3.03E-05 |          | 7.11E+00 |          |          |          |          |          |          |          |
| RL        | RL-W688       | 1.19E-04 |          | 1.67E+01 |          |          |          |          |          |          |          |
| RL        | RL-W701       | 4.20E-12 |          |          |          |          |          |          |          |          |          |
| RP        | RP-W013       | 1.64E-01 |          | 5.04E+04 |          |          |          | 3.42E-01 | 1.91E-01 | 8.03E-03 | 4.62E-03 |
| RP        | RP-W016       | 5.17E-02 |          | 2.48E+04 |          |          |          | 1.94E+00 | 1.44E+01 | 5.48E-01 | 1.17E+00 |
| SA        | SA-W135       |          |          | 4.87E+02 | 4.60E-12 | 3.31E-07 | 7.79E-18 | 1.93E-08 | 7.38E-03 | 5.49E-04 | 6.31E-08 |
| SR        | T003-773A-HET |          |          | 5.00E+01 |          | 2.64E-09 |          |          | 7.25E-05 | 1.08E-14 |          |
| Total:    |               | 4.79E-01 | 5.53E-03 | 3.22E+05 | 1.85E-01 | 1.88E-03 | 9.20E-01 | 1.27E+02 | 3.04E+01 | 1.09E+00 | 1.31E+00 |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP ID            | U-238                |
|-----------|--------------------|----------------------|
| AE        | AE-T009            | 5.34E-05             |
| AW        | AW-T031.1322       | 8.42E-06             |
| AW        | AW-W012.10         | 6.45E-06             |
| AW        | AW-W020.13         | 4.20E-04             |
| AW        | AW-W026            | 2.75E-06             |
| AW        | AW-W028            | 7.00E-06             |
| AW        | AW-W046            | 1.02E-06             |
| AW        | AW-W047            | 1.02E-06             |
| AW        | AW-W048            | 1.69E-06             |
| BC        | BCLRH-MT01         | 2.49E-04             |
| BC        | BCLRH-T001         | 1.73E-06             |
| BC        | BCLRH-T002         | 1.48E-04             |
| BC        | BCLRH-T003         | 2.33E-04             |
| BC        | BCLRH-T004         | 6.76E-03             |
| BC        | BCLRH-T005         | 3.56E-04             |
| BC        | BCLRH-T006         | 8.34E-05             |
| BC        | BCLRH-T007         | 6.89E-07             |
| BC        | BCLRH-T008         | 8.23E-06             |
| BC        | BCLRH-T009         | 5.54E-05             |
| BC        | BCLRH-T010         | 1.29E-06             |
| BC        | BCLRH-T011         | 5.38E-06             |
| BT        | BT-T001            | 3.62E-05             |
| ET ET     | ET-R1-DLR          | 2.25E-03             |
| ET        | ET-R2-D107         | 2.20L 00             |
| IN        | IN-AE-AGHC-01      |                      |
| IN        | IN-AW-161          |                      |
| IN        | IN-INTEC-SFS-01    | 1.06E-12             |
| IN        | IN-NRF-153         | 1.36E-14             |
| IN        | IN-TRA-150         | 1.50L-14             |
| IN        | IN-TRA-150         |                      |
| IN        | IN-W358.949        |                      |
| IN        | IN-W372.918        |                      |
| KA        | KA-T001            | 2.47E-07             |
| KA        | KA-W016            | 2.51E-08             |
| LA        | LA-TA-03-27        | 4.40E-07             |
| OR        | OR-W211            | 8.92E-12             |
| OR<br>OR  | OR-W211            | 2.25E-11             |
| OR<br>OR  | OR-W212<br>OR-W213 |                      |
| OR<br>OR  | OR-W213            | 6.74E-09<br>5.30E-03 |
| OR<br>OR  | OR-W214<br>OR-W215 |                      |
|           |                    | 1.10E+01             |
| RL        | RL-T121<br>RL-T124 |                      |
| RL        | RL-1124<br>RL-T147 | 0.015.00             |
| RL        |                    | 8.91E-03             |
| RL        | RL-T148            | 1.15E-02             |
| RL        | RL-T149            | 4.95E-06             |
| RL        | RL-W161            | 4.005.00             |
| RL        | RL-W162            | 1.66E-06             |
| RL        | RL-W419            |                      |
| RL        | RL-W420            |                      |
| RL        | RL-W421            |                      |

Table E-2. Scaled Volume and Activiteis for Selected Radionuclides for each RH Waste Stream

| Site_Code | WIPP_ID       | U-238    |
|-----------|---------------|----------|
| RL        | RL-W428       |          |
| RL        | RL-W433       |          |
| RL        | RL-W436       |          |
| RL        | RL-W445       |          |
| RL        | RL-W446       |          |
| RL        | RL-W613       |          |
| RL        | RL-W614       |          |
| RL        | RL-W616       |          |
| RL        | RL-W617       |          |
| RL        | RL-W618       |          |
| RL        | RL-W619       |          |
| RL        | RL-W620       |          |
| RL        | RL-W621       |          |
| RL        | RL-W623       |          |
| RL        | RL-W658       |          |
| RL        | RL-W663       |          |
| RL        | RL-W664       |          |
| RL        | RL-W682       | 3.83E-03 |
| RL        | RL-W683       | 2.19E-03 |
| RL        | RL-W686       |          |
| RL        | RL-W687       |          |
| RL        | RL-W688       |          |
| RL        | RL-W701       |          |
| RP        | RP-W013       | 1.60E-01 |
| RP        | RP-W016       | 1.27E+02 |
| SA        | SA-W135       | 1.83E-04 |
| SR        | T003-773A-HET |          |
| Total:    |               | 1.38E+02 |

## APPENDIX F NON-WIPP SCREENING CRITERIA MEMO

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February 24, 2003

Refer To: EES-12:03-099



Earth and Environmental Division (EES) Carlsbad Operations 115 North Main Street Carlsbad, New Mexico 88220 (505) 628-3934 FAX (505) 628-3238

Cynthia Zvonar Office of Environmental Compliance, Assistant Manager CBFO Carlsbad, NM 88220

**Subject:** TRU Waste Inventory Report – 2003 Update

Dear Cindy,

In order to screen WIPP restricted waste streams from the Inventory LANL needs CBFO concurrence/guidance. We wish to have a meeting with you, Inés and members of your team to discuss these criteria. Specifically the following screening criteria obtained from the TWBIR rev. 3 and regulatory requirements must be considered:

- PCBs > 50ppm
- Dose > 1000 R/hr
- Classified
- Commercial/non-defense
- Pre- 1970 buried Pit 9 at INEEL
- Unknown waste streams
- D001, D002 or D003 waste streams
- High tritium (Beryllium containing waste streams from INEEL)
- 23 Ci/L or (2300 Ci/m<sup>3</sup>) of maximum activity level averaged over the volume of the canister.

In addition, we would like to address excess Remote Handled Waste above the allocated 7080 m<sup>3</sup> limit.

Please contact me at 628-1372 (cell: 505-706-0224) to provide a date and time that is convenient for this discussion.

Sincerely,

(SIGNATURE COPY ON FILE)

Sheila Lott EES-12, Carlsbad Operations

SL:kag

Cynthia Zvonar -2- 2/24/03

Cy: Inés Triay, CBFO Russ Patterson, CBFO Steve Casey, CBFO David Moody, LANL Bev Crawford, LANL

EES-12 Files

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## Memorandum to File March 7, 2003

The LANL-CO Inventory Team met with the Carlsbad Field Office Recertification Staff to discuss the TRU waste streams. Categories consistent with the baseline reports were discussed, as well as the placement of questionable waste components. The two categories are "Acceptable" (Appendix P) and "Excluded" (Appendix O) wastes. Wastes categorized as excluded can be further categorized into "potential future waste streams" and "all other waste streams"

The 2003 Compliance Recertification Application will provide data on emplaced TRU waste and anticipated inventory. In the Transuranic Baseline Inventory Report there was a section that had a separate appendix denoting wastes excluded from WIPP and possible future wastes for WIPP. The LANL-CO team wanted to discuss the screening criteria that will be used for the Transuranic Waste Inventory Update Report, 2003 for these wastes.

For purposes of demonstrating compliance with the long-term disposal regulations, the WIPP performance assessment (PA) process will examine the 2003 inventory (both received and anticipated) for differences from the compliance basis (Compliance Certification Application, 1996). If different, the PA will utilize the updated values to assess the long-term behavior of the repository. The inventory data to be analyzed will include the acceptable waste streams, and the excluded – potential future waste listed in the table below.

| Screening Criteria                            | Decision Made                     |
|---|-----------------------------------|
| PCBs > 50ppm                                  | Acceptable (pending EPA - Region  |
|   | 6 approval)                       |
| Dose > 1000 R/hr                              | Excluded                          |
| Classified waste                              | Acceptable                        |
| Commercial                                    | Excluded                          |
| Non-defense waste that is likely defense, but | Acceptable (with indicating       |
| no official determination                     | explanation)                      |
| Pre-1970 buried waste                         | Excluded                          |
| Pit 9 waste at INEEL                          | Acceptable (test waste only [~120 |
|   | m <sup>3</sup> ])                 |
| Unknown waste streams                         | Excluded                          |
| D001, D002, D003 waste streams                | Acceptable (with treatment to     |
|   | remove the EPA codes)             |
| Beryllium-containing waste streams, (e.g.,    | Excluded                          |
| beryllium reflectors at INEEL)                |                                   |
| >23 Ci/L or (23,000Ci/ cubic meters)          | Excluded                          |
| of maximum activity level averaged            |                                   |
| over the volume of the canister               |                                   |
| Sodium-Bearing Waste from INEEL               | Excluded - Potential Future Waste |
|   |                                   |
| RH TRU waste > 7,080 cubic meter limit        | Excluded                          |

The team was reminded to keep in mind when scaling the RH TRU waste of the 5% limit of RH TRU between 100R/hr and 1000R/hr.

DOE/CBFO Recertification Representative Recertification Representative

Steve Casey

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LANL-CO Inventory Lead

Sheila Lott

# APPENDIX G DATA REQUIREMENTS

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Appendix G - ii -

1



Dr. Emily R. Giambalvo Senior Member of Technical Staff

Performance Assessment and Decision Analysis Dept. 6821

4100 National Parks Highway Carlsbad, NM 88220 Sandia National Laboratories Phone: (505) 234-0176 (505) 234-2780 (Secretary) Fax: (505) 234-0061 Internet: ergiamb@sandia.gov

April 22, 2002

Joe Harvill, T-141, GSA-101, (234-7652) Westinghouse TRU Solutions Carlsbad, New Mexico

Subject: Sandia's WIPP Inventory Data Needs for Performance Assessment

Per your request [Harvill, 2002], this letter details Sandia's additional data needs regarding the inventory data to be included in the 2002 update to the Transuranic Waste Baseline Inventory Report (TWBIR). In order to conduct a performance assessment of the WIPP for the Compliance Recertification Application (CRA) that (1) accounts for revisions to inventory estimates since certification of the repository, (2) accounts for both currently emplaced waste and to-be-emplaced waste, and (3) is defensible against concerns regarding heterogeneous waste emplacement, we will need the 2002 update to the TWBIR to include the following inventories:

- 1. Waste stream volumes.
- 2. Inventory of radionuclides on a waste stream basis for both CH- and RH-TRU waste, decayed to a common base year. For calculating releases due to cuttings, cavings, and spallings we need inventories on a waste-stream basis for the key radionuclides (i.e. those accounting for >99% of the EPA units in the WIPP plus some of their parents and daughters) [Sanchez et al., 1997]. For the Compliance Certification Application, the key radionuclides were determined to be <sup>241</sup>Am, <sup>244</sup>Cm, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, <sup>241</sup>Pu, <sup>233</sup>U, <sup>234</sup>U, <sup>137</sup>Cs, and <sup>90</sup>Sr [Sanchez et al., 1997]. Because Sandia will re-evaluate the determination of key radionuclides, this list may grow.

For assessing the impact of heterogeneous waste emplacement on direct brine releases, we will require inventories on a waste-stream basis for a subset of the radionuclides accounted for in the direct brine release model. The required radionuclides are <sup>241</sup>Am, <sup>243</sup>Am, <sup>244</sup>Cm, <sup>237</sup>Np, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, <sup>241</sup>Pu, <sup>242</sup>Pu, <sup>242</sup>Pu, <sup>244</sup>Pu, <sup>229</sup>Th, <sup>230</sup>Th, <sup>232</sup>Th, <sup>234</sup>U, <sup>235</sup>U, <sup>236</sup>U, and <sup>238</sup>U.

For performance assessment calculations of direct brine release and subsurface transport of radionuclides, for determining the waste unit factor, and for re-evaluating key radionuclide determinations, we will require inventories on a WIPP-scale basis for a greater number of radionuclides. Fifteen radionuclides contribute to the waste unit factor: <sup>241</sup>Am, <sup>243</sup>Am, <sup>249</sup>Cf, <sup>251</sup>Cf, <sup>243</sup>Cm, <sup>245</sup>Cm, <sup>246</sup>Cm, <sup>247</sup>Cm, <sup>248</sup>Cm, <sup>237</sup>Np, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, and <sup>244</sup>Pu [Sanchez, 1996]. Performance assessment models track 29 radionuclides on a WIPP-scale basis: <sup>241</sup>Am, <sup>243</sup>Am, <sup>252</sup>Cf, <sup>243</sup>Cm, <sup>244</sup>Cm, <sup>245</sup>Cm, <sup>248</sup>Cm, <sup>237</sup>Np, <sup>231</sup>Pa, <sup>210</sup>Pb, <sup>147</sup>Pm, <sup>238</sup>Pu, <sup>239</sup>Pu, <sup>240</sup>Pu, <sup>241</sup>Pu, <sup>242</sup>Pu, <sup>244</sup>Pu, <sup>226</sup>Ra, <sup>228</sup>Ra, <sup>90</sup>Sr, <sup>229</sup>Th, <sup>230</sup>Th, <sup>233</sup>Th, <sup>233</sup>U, <sup>234</sup>U, <sup>235</sup>U, <sup>236</sup>U, <sup>238</sup>U [Garner, 1996; Sanchez et al., 1997]. Re-evaluation of key radionuclides may benefit from tracking 14 additional radionuclides that per EPA regulation contribute to the number of EPA units in the WIPP: <sup>227</sup>Ac, <sup>14</sup>C, <sup>135</sup>Cs, <sup>129</sup>I, <sup>59</sup>Ni, <sup>63</sup>Ni, <sup>107</sup>Pd, <sup>79</sup>Se, <sup>151</sup>Sm, <sup>121m</sup>Sn, <sup>126</sup>Sn, <sup>99</sup>Tc, <sup>232</sup>U, and <sup>93</sup>Zr [Sanchez, 1996]. Radionuclide inventories for these purposes may be provided on a WIPP-scale basis prior to completion of the 2002 update to the TWBIR, if you wish to minimize the number of radionuclides that must be tracked on a waste stream basis, or may be provided on a waste stream basis within the update. If WIPP-scale inventories are provided prior to completion of the 2002 update to the TWBIR, the same inventories should be included in the 2002 update to the TWBIR.

In summary, please provide waste-stream level inventories of at least

$$^{241}\text{Am},\,^{243}\text{Am},\,^{244}\text{Cm},\,^{237}\text{Np},\,^{238}\text{Pu},\,^{239}\text{Pu},\,^{240}\text{Pu},\,^{241}\text{Pu},\,^{242}\text{Pu},\,^{244}\text{Pu},\,^{229}\text{Th},\\ ^{230}\text{Th},\,^{232}\text{Th},\,^{234}\text{U},\,^{235}\text{U},\,^{236}\text{U},\,^{238}\text{U},\,^{137}\text{Cs},\,\text{and}\,^{90}\text{Sr}.$$

Please provide WIPP-scale inventories of

$$^{241}Am,\ ^{243}Am,\ ^{249}Cf,\ ^{251}Cf,\ ^{252}Cf,\ ^{243}Cm,\ ^{244}Cm,\ ^{245}Cm,\ ^{246}Cm,\ ^{247}Cm,\ ^{247}Cm,\ ^{248}Cm,\ ^{137}Cs,\ ^{237}Np,\ ^{231}Pa,\ ^{210}Pb,\ ^{147}Pm,\ ^{238}Pu,\ ^{239}Pu,\ ^{240}Pu,\ ^{240}Pu,\ ^{241}Pu,\ ^{242}Pu,\ ^{244}Pu,\ ^{226}Ra,\ ^{228}Ra,\ ^{90}Sr,\ ^{229}Th,\ ^{230}Th,\ ^{232}Th,\ ^{233}U,\ ^{234}U,\ ^{235}U,\ ^{236}U,\ and\ ^{238}U.$$

✓ Consider providing WIPP-scale inventories of

$$^{227}Ac,\ ^{14}C,\ ^{135}Cs,\ ^{129}I,\ ^{59}Ni,\ ^{63}Ni,\ ^{107}Pd,\ ^{79}Se,\ ^{151}Sm,\ ^{121m}Sn,\ ^{126}Sn,\ ^{99}Tc,\ ^{232}U,\ and\ ^{93}Zr.$$

3. Inventory of all nonradioactive waste material parameters that were previously tracked in the TWBIR. These inventories should be provided on a waste stream basis for both CH- and RH-TRU waste. Nonradioactive waste material parameters include: Iron Base Metal/Alloy; Aluminum Base Metal/Alloy; Other Metal/Alloy; Other Inorganic Materials; Vitrified; Cellulosics; Rubber; Plastics; Solidified Inorganic Material; Solidified Organic Material; Cement; Soils; Steel (container material); Plastic/Liners (container material); and Lead (container material for RH-TRU waste only) [US DOE, 1996].

The Cellulosics inventory should include plywood waste boxes and other waste container materials made of cellulosics. This inventory will contribute to gas generation.

If Solidified Organic Material or Solidified Inorganic Material occurs in a waste stream, please specify what materials were used to solidify the waste, and if feasible, in what proportions. The specification can be made within the waste stream description or in a separate field. These materials may have implications for actinide solubility.

Include only portland cement (and concrete or other cements containing CaO or Ca(OH)<sub>2</sub>) in the inventory of Cement. Specify whether the partial mass density of Cement is based on unreacted (dry) cement, reacted (hydrated) cement, or a combination. Do not list portland cement inventory under Other Inorganic Material, Solidified Organic Material, Solidified Inorganic Material, or other waste material parameter. Cement may affect the pH of WIPP brines.

If Vitrified, Solidified Inorganic Material, Solidified Organic Material, or Cement is expected to occur in the final waste form and final waste form inventory data is not yet available, please estimate the partial densities of these waste material parameters that will occur in the final waste form. Appendix B-7 in the TWBIR Rev. 3 [US DOE, 1996] provides an example of how final waste form partial densities may be estimated.

If possible, specify whether a waste stream contains pyrochemical salts, and whether the pyrochemical salts resulted from Direct Oxygen Reduction (DOR) or  $O_2$  sparging. The specification can be made within the waste stream description or in a separate field. This information may have implications for actinide oxidation state.

- 4. Inventory of any other nonradioactive waste materials that are discovered to account for a significant portion of a waste stream as a result of changes to the inventory. We suggest that inventory should be taken for any material not included in the existing waste material parameters and accounting for >5% by weight or volume of a waste stream. These inventories, if they exist, should be provided on a waste stream basis for both CH- and RH-TRU waste.
- 5. Inventory of Cellulosics, Plastics, Rubbers, and other biodegradable materials used to facilitate emplacement of waste and MgO in the WIPP. Waste and MgO emplacement in the WIPP is facilitated by the use of plastic shrinkwrap, cardboard stabilizers, and other materials. Inventory estimates for these materials should be included on a WIPP-scale basis. These materials may contribute to gas generation.
- 6. Inventory of organic ligands and of SO<sub>4</sub>, NO<sub>3</sub>, and PO<sub>4</sub>. We understand from informal conversations with you and members of your team that new estimates of organic ligand concentrations and of SO<sub>4</sub>, NO<sub>3</sub>, and PO<sub>4</sub> concentrations would not improve upon the estimates available in the TWBIR Rev. 3. Therefore, for waste streams included in the TWBIR Rev 3. (and similar waste streams), we do not need updated inventories of these waste components to be included in the 2002 update to the TWBIR.

If organic ligands (acetate, citrate, oxalate, or EDTA), SO<sub>4</sub>, NO<sub>3</sub>, or PO<sub>4</sub> will be added to new waste streams during environmental restoration, decontamination and decommissioning, or similar activities, include inventory estimates for these waste components in the new waste streams. These components may affect actinide solubility or gas generation rates.

The 2002 update to the TWBIR should have the following characteristics:

- 1. Waste-stream level inventories of radionuclides and nonradioactive waste material parameters for waste currently emplaced in the WIPP should be included. The currently emplaced inventory should be distinct from the inventory remaining at waste generator sites. Inventories supplied by the waste generator sites should not include waste already sent to the WIPP.
- Waste-stream level inventories of radionuclides and nonradioactive waste material
  parameters supplied by the waste generator sites should include estimates for (1)
  stored inventory, (2) projected inventory, (3) stored plus projected inventory
  (anticipated inventory), and (4) inventory scaled to fill the WIPP (disposal
  inventory). A definition for each type of inventory is given in the TWBIR Rev. 3 [US
  DOE, 1996].
- 3. To the extent possible, the waste streams identified in the 2002 update to the TWBIR should remain the same as the waste streams identified in previous versions of the TWBIR. Such consistency will (1) ensure that inventory data is available at the level of detail required for performance assessment calculations, and (2) allow us to continue to reference previous versions of the TWBIR for any information not collected for the 2002 update.

In order for the 2002 update to the TWBIR to be fully incorporated into CRA performance assessment calculations, we will need to receive it by your proposed deadline of the end of October, 2002. If any of the preliminary assessments of inventory issues that we carry out prior to October, 2002 indicate a need for additional or more specific data, we will notify you immediately in writing.

Sincerely,

Dr. Emily R. Giambalvo (Senior Member of Technical Staff)

## References:

Garner, J.W., 1996. "Radioisotopes to be used in the 1996 CCA calculations," Memo to C. T. Stockman, 15 March 1996, Albuquerque, NM: Sandia National Laboratories, WPO

Harvill, J., 2002. "Inventory Information," Email to E. R. Giambalvo, 9 April 2002, Carlsbad, NM.

Sanchez, L.C., 1996. "Identification of important radionuclides used in 1996 CCA WIPP performance assessment," Memo to "Distribution," 25 April 1996, Albuquerque, NM: Sandia National Laboratories, WPO 37431. Sanchez, L.C., J. Liscum-Powell, J.S. Rath and H. Trellue, 1997. "WIPP PA Analysis Report for EPAUNI: Estimating Probability Distribution of EPA Unit Loading in the WIPP Repository for Performance Assessment Calculations, version 1.01," 17 February 1997, Sandia National Laboratories, Albuquerque, NM, WPO 243843.

US DOE, 1996. "Transuranic Waste Baseline Inventory Report, Revision 3," June 1996, United States Department of Energy, Carlsbad, NM.

ERG:6821:erg/(2002-1002, Rev. A)

Copy to: R. Patterson, DOE, CBFO D. Mercer, DOE, CBFO R. Nelson, DOE, CBFO S.C. Casey, Westinghouse J.R. Fudge, Westinghouse J.J. Cotton, Westinghouse S. Chakraborti, Weston MS-1395, P.E. Shoemaker [Dept. 6820]
MS-1395, M.K. Knowles [Dept. 6821]
MS-0779, L.C. Sanchez [Dept. 6849] [Dept. 6821] MS-1395, D.E. Wall MS-1395, J. W. Garner MS-1395, T. Hadgu [Dept. 6821] [Dept. 6821] [Dept. 6821] MS-1395, S. Wagner MS-1395, G. R. Kirkes MS-1395, N.A. Wall MS-1395, Y. Wang [Dept. 6821] [Dept. 6822] [Dept. 6822] [Dept. 6822] MS-1395, L.H. Brush MS-1395, E.R. Giambalvo[Dept. 6821]\ MS-1395, Day File [Dept. 6821]



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Dr. Emily R. Giambalvo Senior Member of Technical Staff Sandia National Laboratories Performance Assessment and Decision Analysis Dept. 6821

June 10, 2002

Joe Harvill, T-141, GSA-101, (234-7652) Westinghouse TRU Solutions Carlsbad, New Mexico

Subject: Waste Inventory: Level of Detail Required for Performance Assessment

At the April 22, 2002 meeting between Westinghouse TRU Solutions and Sandia National Laboratories regarding Sandia's waste inventory needs for performance assessment (Giambalvo, 2002), you indicated that:

- The waste categories included in the 2002 update to the Transuranic Waste Baseline Inventory Report
  (TWBIR) would be more coarsely defined than were the waste streams included in the TWBIR
  Revisions 2 and 3. This coarsening would decrease the number of waste categories from ~970
  contact-handled (CH-) and remote-handled (RH-) transuranic (TRU) waste streams to <200 CH- and
  RH-TRU waste categories.</li>
- As planned, the 2002 update to the TWBIR will account for all of the waste currently emplaced in WIPP in a single waste category. No significant difficulty would arise from categorizing the emplaced waste by waste stream or other waste category that could capture the heterogeneity of the emplaced waste.

In subsequent informal conversations, you indicated that the waste categories included in the 2002 update to the TWBIR are likely to remain very similar to the waste streams in Revisions 2 and 3 of the TWBIR due to the way in which the generator sites categorize the waste.

This letter is intended to clarify Sandia's needs regarding categorization of waste. The points listed below, where different from those listed in my letter to you of April 22, 2002 (Giambalvo 2002), supercede the points made in the previous letter.

- A probabilistic Performance Assessment (PA) can be carried out with a lesser number of waste categories than were provided by the waste stream classification in Revisions 2 and 3 of the TWBIR. Using a very small number of waste categories may lead to PA results being questioned by the regulator and/or stakeholders.
- If the waste categories used in the 2002 update to the TWBIR are not the same as the waste streams defined in Revisions 2 and 3 of the TWBIR (plus any new waste streams), then we prefer that
  - a) the waste categories be called something other than "waste streams,"
  - the 2002 update to the TWBIR include a description of how the new waste categories relate to the old waste streams, and

Exceptional Service in the National Interest

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 the 2002 update to the TWBIR include a justification for the change in waste categorization method.

These conditions are required so that Sandia may explain to the regulator the associated differences in PA calculations, and so that we may continue to reference Revisions 2 and 3 of the TWBIR for any information not collected for the 2002 update to the TWBIR.

3. The emplaced waste inventory should be provided with the same level of detail that is provided for the waste remaining at the generator sites (to-be-emplaced waste). If to-be-emplaced waste is categorized by waste stream, then the emplaced inventory should be categorized by waste stream. If to-be-emplaced waste is more coarsely categorized, then the emplaced inventory should be categorized with a similar resolution of detail. For instance, the emplaced waste could be categorized according to final waste form (US DOE, 1996), waste matrix group (Strum, 2002), or other characteristic consistent with the categorization scheme used for the to-be-emplaced waste.

As you gather information for the 2002 update to the TWBIR, please let me know if any of the requests made in this letter or in the letter dated April 22, 2002 (Giambalvo, 2002) cannot be fulfilled.

Sincerely,

Emily R. Giambalvo

### References:

US DOE, 1996. "Transuranic Waste Baseline Inventory Report, Revision 3," June, 1996, United States Department of Energy, Carlsbad, NM.

Giambalvo, E.R., 2002. "Sandia's WIPP Inventory Data Needs for Performance Assessment," Letter to J. Harvill, 22 April 2002, Carlsbad, NM: Sandia National Laboratories. WPO 521948

Strum, M., 2002. "WIPP Waste Information System (WWIS) User's Guide," 17 May 2002, Westinghouse TRU Solutions, Carlsbad, NM, 190 pp.

ERG:6821:erg/(2002-1002, Rev. A)

Copy to: D. Mercer, DOE, CBFO S.C. Casey, Westinghouse TRU Solutions S. Chakraborti, Roy F. Weston, Inc. MS-1395, P.E. Shoemaker [Dept. 6820] MS-1395, M.K. Knowles [Dept. 6821] [Dept. 6821] MS-1395, D.E. Wall [Dept. 6821] MS-1395, S. Wagner MS-1395, G. R. Kirkes [Dept. 6821] MS-1395, L.H. Brúsh [Dept. 6822] [Dept. 6849] MS-0779, L.C. Sanchez MS-0779, J.C. Helton [Dept. 6849] MS-1395, E.R. Giambalvo [Dept. 6821] MS-1395, Day File [Dept. 6821]

Appendix G

# APPENDIX H CLARIFICATION OF DATA REQUIREMENTS

Appendix H - i -

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Appendix H - ii -



Operated for the U.S. Department of Energy by Sandia Corporation

Christi Leigh, PhD

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(505) 234-0038 (Carlsbad) (505) 234-0061 cdleigh@sandia.gov

March 12, 2003

Dr. Beverly Crawford Los Alamos National Laboratories Carlsbad Office 115 N. Main St. Carlsbad, NM 88220

Subject: Clarification of Requirements for the Transuranic Waste Baseline Inventory Database Revision 2.1 from the Giambalvo Letter dated April 22, 2002

Dear Dr. Crawford:

The stated reference (Giambalvo 2003a) includes the following description of requirements for the Transuranic Waste Baseline Inventory Database Revision 2.1.

"Waste-stream level inventories of radionuclides and nonradioactive waste material parameters supplied by the waste generator sites should include estimates for (1) stored inventory, (2) projected inventory, (3) stored plus projected inventory (anticipated inventory, and (4) inventory scaled to fill the WIPP (disposal inventory). A definition for each type of inventory is given in the TWBIR Rev. 3 [US DOE, 1996]."

The purpose of this letter is to clarify the application of this statement to the waste material parameter data for individual waste streams supplied by the waste generator site. For the performance assessment calculations that will be performed in support of the Compliance Recertification Application, Sandia National Laboratories needs to know the average density of the waste material parameters throughout the repository assuming that waste material parameters are distributed homogenously throughout the repository. That value should be calculated as follows:

Exceptional Service in the National Interest

Dr. Beverly Crawford

-2-

March 12, 2003

$${}^{\text{wmp}}\rho_{\text{ave Rep}} = \sum {}^{\text{wmP}}\rho_{\text{ave }i} \cdot (v_p + v_s + v_e) / (V_p + V_s + V_e)$$
 (1)

Where

v is the projected volume for waste stream i,

v. is the stored volume for waste stream i,

v is the emplaced volume for waste stream i,

V<sub>n</sub> is the total projected volume

V is the total stored volume

is the total emplaced volume

 $_{\text{was}}^{\text{posse}}$   $\rho_{\text{ave Rep}}$  is the average density of a WMP throughout the repository

wm ρ<sub>swi</sub> is the average density of a WMP in waste stream i

None of the values in Equation 1 should be "scaled" values. This is the average density that will accommodate calculation of gas generation in our repository models.

Please note this clarification and proceed with implementation of Equation 1 for repository waste material parameter density in the TWBID Revision 2.1

If you have any questions or comments regarding this information, please contact Christi Leigh at 234-0038.

Sincerely,

Christi Leigh

Copy to: Laurie Sparks-Roybal

Sheila Lott Bill McCulla

# APPENDIX I WASTE STREAM PROFILES – NON-WIPP

The following waste stream profiles contain information on waste streams that were not compliant with the Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (CH-WAC; DOE 2000) as of the inventory date, September 30, 2002. The following waste stream profiles contain information on waste streams that are not being considered for shipment to WIPP at this time due to content, radiological composition, or lack of information about the waste streams. Appendix F contains a memo that lists the limiting conditions (screening criteria) that were used to screen these waste streams out of the inventory. The TRU waste sites that have reported non-WIPP waste streams are:

| 1.  | Argonne National Laboratory – West                      | AW |
|-----|---|----|
| 2.  | Babcock and Wilcox, Lynchburg                           | BL |
| 3.  | Framatome (Richland)                                    | FR |
| 4.  | General Electric Vallecitos Nuclear Center              | GE |
| 5.  | Idaho National Engineering and Environmental Laboratory | IN |
| 6.  | Knolls Atomic Power Laboratory – Nuclear Fuels Service  | KN |
| 7.  | Los Alamos National Laboratory                          | LA |
| 8.  | Lawrence Berkeley National Laboratory                   | LB |
| 9.  | Paducah Gaseous Diffusion Plant                         | PA |
| 10. | Rocky Flats Environmental Technology Site               | RF |
| 11. | Hanford (Richland Operations)                           | RL |
| 12. | Sandia National Laboratories (Albuquerque)              | SA |
| 13. | Separations Process Research Unit                       | SP |
| 14. | Savannah River Site                                     | SR |
| 15. | West Valley Demonstration Project                       | WV |

#### **REFERENCES**

Department of Energy (DOE) 2002. Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 0, DOE/WIPP-02-3122, May 17, 2002.

Appendix I 1

Soils

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

0.00

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | AW-W018 Stream Name SODIUM - TRU                                      |             |                        |            |                              |                               | Invent         | ory Date 9/30/2002                  |
|----------|---|-------------|------------------------|------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID | CH-ANL-180T Handling RH Final Wa                                      | ste Form    | Jncategor <sup>1</sup> | ized Metal | Waste Matrix Code X7520      | Activi                        | ty Concentrati | ons as of CY 1996                   |
| Final Wa | ste Form Descriptors  |             |                        |            | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Categ    | Defense TRU Waste  Source: Facility/Equipmen Waste  Dlume Detail (m3) | t Operation | n and Mair             | ntenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
|          | · ,   |             |                        |            | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 3.83E+02                            |
|          | nerated Volumes   | 1           | 1                      |            | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137         | 1.77E+05                            |
|          | inerType  | Stored      | Proj.                  | Total      | Other Metal/Alloys           | 0.00                          | Pu-238         | 9.53E+02                            |
| Liner /  | 0.1m3   | 14.1        | 0.0                    | 14.1       | Other Inorganic Materials    | 0.00                          | Pu-239         | 1.69E+04                            |
| Liner /  | 0.3m3   | 29.1        | 0.0                    | 29.1       | Cellulosics                  | 0.00                          | Pu-240         | 2.84E+03                            |
| Liner /  | 0.5m3   | 197.0       | 0.0                    | 197.0      | Rubber                       | 0.00                          | Pu-241         | 7.05E+04                            |
|          | As-Generated Total  | 240.2       | 0.0                    | 240.2      | Plastics                     | 0.00                          | Sr-90          | 7.24E+04                            |
|          |   |             |                        |            | Solidified, Inorganic Matrix | 0.00                          | <u> </u>       |                                     |
| Final I  | Form Volumes  |             |                        |            | Cement (Solidified)          | 0.00                          |                |                                     |
| Conta    | inerType  | Stored      | Proj.                  | Total      | Vitrified                    | 0.00                          |                |                                     |
| RH Ca    | nister used to overpack 45 gallon drums                               | 240.7       | 0.0                    | 240.7      | Solidified, Organic Matrix   | 0.00                          |                |                                     |

#### **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 or is contained in blanket elements. This waste will require treatment prior to disposal at WIPP. Final waste form has not been determined yet.

240.7

0.0

#### **Management Comments**

Alpha Containment, THE WASTE MATERIAL PARAMETERS HAVE NOT BEEN DEVELOPED FOR THIS WASTE STREAM. THE WASTE STREAM NEEDS TO BE TREATED AND FURTHER CHARACTERIZED BECAUSE IT DOES NOT MEET THE WIPP WAC REQUIREMENTS.

240.7

Final Form Total

0.00

0.00

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID AW-W019 Stream Name SODIUM POTASSIUM -N         | NaK- TRU    |            |            |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|------------|------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID CH-ANL-182T Handling RH Final Wa             | ste Form    | Jncategor  | ized Metal | Waste Matrix Code X7520      | Activ                         | ity Concentrati | ons as of CY 1996                   |
| Final Waste Form Descriptors                          |             |            |            | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen | t Operatior | n and Mair | itenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)                              |             |            |            | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 4.78E+02                            |
| As-Generated Volumes                                  |             |            |            | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 2.21E+05                            |
| ContainerType   | Stored      | Proj.      | Total      | Other Metal/Alloys           | 0.00                          | Pu-238          | 1.19E+03                            |
| Liner / 0.1m3   | 0.7         | 0.0        | 0.7        | Other Inorganic Materials    | 0.00                          | Pu-239          | 2.11E+04                            |
| Liner / 0.3m3   | 1.2         | 0.0        | 1.2        | Cellulosics                  | 0.00                          | Pu-240          | 3.55E+03                            |
| Liner / 0.5m3   | 2.0         | 0.0        | 2.0        | Rubber                       | 0.00                          | Pu-241          | 8.80E+04                            |
| As-Generated Total                                    | 3.9         | 0.0        | 3.9        | Plastics                     | 0.00                          | Sr-90           | 9.04E+04                            |
|   |             |            |            | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| Final Form Volumes                                    |             |            |            | Cement (Solidified)          | 0.00                          |                 |                                     |
| ContainerType   | Stored      | Proj.      | Total      | Vitrified                    | 0.00                          |                 |                                     |
| RH Canister used to overpack 45 gallon drums          | 4.1         | 0.0        | 4.1        | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
| Final Form Total                                      | 4.1         | 0.0        | 4.1        | Soils                        | 0.00                          |                 |                                     |
| 7 mai i Sim i Stat                                    |             | 3.0        | ****       | Packaging Material, Steel    | 0.00                          |                 |                                     |

#### **Waste Stream Description**

Waste Stream ID:

AW-W019

Sodium potassium alloy (NaK) is used as a coolant for some components of the EBR-II Reactor. 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.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

#### **Management Comments**

THE WASTE MATERIAL PARAMETERS HAVE NOT BEEN DEVELOPED FOR THIS WASTE STREAM. THE WASTE STREAM NEEDS TO BE TREATED AND FURTHER CHARACTERIZED BECAUSE IT DOES NOT MEET THE WIPP WAC REQUIREMENTS.

26.00

464.70

0.00

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

#### Waste Stream ID: AW-W029

### Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name RSWF TRANSURANIC V  | VASTE    |           |            |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|----------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID CH-ANL-538 Handling RH Final Wa  | ste Form | Uncategor | ized Metal | Waste Matrix Code S5111      | Activ                         |            | ons as of CY 1996                   |
| Final Waste Form Descriptors  |          |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |            | Iron-Base Metal/Alloys       | 126.90                        | Am-241     | 1.79E+02                            |
| ContainerType   | Stored   | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 2.40                          | Cs-137     | 8.28E+04                            |
| Liner / 0.1m3   | 2.6      |           |            | Other Metal/Alloys           | 266.50                        | Pu-238     | 4.46E+02                            |
| Liner / 0.3m3   | 4.5      |           |            | Other Inorganic Materials    | 14.60                         | Pu-239     | 7.92E+03                            |
| Liner / 0.5m3   | 37.0     |           |            | Cellulosics                  | 8.30                          | Pu-240     | 1.33E+03                            |
| Ziliot / O.O.IIIO   | 07.0     | 0.0       | 07.0       | Rubber                       | 0.50                          | Pu-241     | 3.30E+04                            |
| As-Generated Total  | 44.1     | 0.0       | 44.1       | Plastics                     | 5.40                          | Sr-90      | 3.39E+04                            |
| Final Form Volumes  |          |           |            | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
| ContainerType   | Stored   | Proj.     | Total      | Cement (Solidified)          | 0.00                          |            |                                     |
| RH Canister used to overpack 45 gallon drums  | 44.2     | 0.0       |            | Vitrified                    | 0.00                          |            |                                     |
| THE Carrister used to overpack 45 gailori drams                                     | 77.2     | 0.0       | 77.2       | Solidified, Organic Matrix   | 0.00                          |            |                                     |
| Final Form Total  | 44.2     | 0.0       | 44.2       | Soils                        | 0.00                          |            |                                     |
|   |          |           |            | Packaging Material, Steel    | 526.00                        |            |                                     |

#### **Waste Stream Description**

Radioactive Scrap and Waste Facility (RSWF) Waste containers storing TRU waste from various facilities. Waste includes analytical samples, EBR-I waste and subassembly hardware.

#### **Management Comments**

N/A

| HQ ID    | N/A              | Stream Name | Reactor | Fuel Test Specimens  |                     |        |          | Inventory Date        | 9/30/ | /2002 |
|----------|------------------|-------------|---------|----------------------|---------------------|--------|----------|-----------------------|-------|-------|
| Local ID | N/A              | Handling    | СН      | Final Waste Form N/A | Waste Matrix Code   | N/A    | Activity | y Concentrations as o | CY    | N/A   |
| Final Wa | eta Form Dascrin | ators       |         |                      | Waste Material Para | matars |          | No Final For          | m     |       |

|           | •                     |         |     |
|-----------|-----------------------|---------|-----|
| Category: | Defense Determination | Source: | N/A |
|           | Pending               |         |     |

#### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| Drum / 55 gallon     |                   | 45.1   | 0.0   | 45.1  |
| Δ                    | s-Generated Total | 45 1   | 0.0   | 45 1  |

| Stored | Proj. | Total |
|--------|-------|-------|
| 45.1   | 0.0   | 45.1  |
|        |       |       |

Final Form Total 45.1 0.0 45.1

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# **Radionuclides Provided**

#### **Waste Stream Description**

This waste consists mostly of cellulostics, rubber, and lead-lined gloves.

#### **Management Comments**

N/A

# Waste Stream ID: FM-MOX-MT02 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Framatome MOX Fuel Plant D&D Mixed TRU Waste

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations as of CY 1997

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: Remediation/D&D Waste, Discarding Excess/Expired Materials

#### Waste Volume Detail (m3)

| As-Generated Volumes         |                    |        |       |       |
|------------------------------|--------------------|--------|-------|-------|
| ContainerType                |                    | Stored | Proj. | Total |
| Drum / 55 gallon in overpack |                    | 0.4    | 0.0   | 0.4   |
|                              | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 305.00                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 56.00                         |
| Rubber                         | 21.00                         |
| Plastics                       | 4.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 143.00                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.43E-06                            |
| Pu-238  | 1.48E-06                            |
| Pu-239  | 7.20E-07                            |
| Pu-240  | 4.30E-07                            |
| Pu-241  | 6.07E-05                            |
| Pu-242  | 1.00E-08                            |

#### **Waste Stream Description**

This waste is from the D&D of a Mixed Oxide fuel fabrication plant. Wastes consist of discarded equipment (motors, grinders, scales, etc.) and decontamination wastes (rags, protective clothing, sweeps, etc.) from the D&D of the facility.

#### **Management Comments**

Waste will be accepted into the Hanford TRU Program and characterized to meet all certification requirements for shipment to WIPP.

### Waste Stream ID: FM-MOX-T01

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Framatome MOX Fuel Plant D&D TRU Waste

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations as of CY 1997

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: Remediation/D&D Waste, Discarding Excess/Expired Materials

#### Waste Volume Detail (m3)

| As-Generated Volumes         |                    |        |       |       |
|------------------------------|--------------------|--------|-------|-------|
| ContainerType                |                    | Stored | Proj. | Total |
| Drum / 55 gallon in overpack |                    | 6.9    | 0.0   | 6.9   |
|                              | As-Generated Total | 6.9    | 0.0   | 6.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 6.9    | 0.0   | 6.9   |
|                    | Final Form Total | 6.9    | 0.0   | 6.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 305.00                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 56.00                         |
| Rubber                         | 21.00                         |
| Plastics                       | 4.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 143.00                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 59.00                         |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.43E-06                            |
| Pu-238  | 1.48E-06                            |
| Pu-239  | 7.20E-07                            |
| Pu-240  | 4.30E-07                            |
| Pu-241  | 6.07E-05                            |
| Pu-242  | 1.00E-08                            |

#### **Waste Stream Description**

This waste is from the D&D of a Mixed Oxide fuel fabrication plant. Wastes consist of discarded equipment (motors, grinders, scales, etc.) and decontamination wastes (rags, protective clothing, sweeps, etc.) from the D&D of the facility. The 6M container includes 85 mixed oxide pellets.

#### **Management Comments**

Waste will be accepted into the Hanford TRU Program and characterized to meet all certification requirements for shipment to WIPP.

| HQ ID    | N/A              | Stream Name | N/A |                      |                     |        |          | Inventory Date        | 9/30 | /2002 |
|----------|------------------|-------------|-----|----------------------|---------------------|--------|----------|-----------------------|------|-------|
| Local ID | N/A              | Handling    | СН  | Final Waste Form N/A | Waste Matrix Code   | N/A    | Activity | y Concentrations as o | CY   | N/A   |
| Final Wa | ste Form Descrip | otors       |     |                      | Waste Material Para | meters |          | No Final For          | m    |       |

# Waste Volume Detail (m3)

Category: Non-defense TRU Waste Source: N/A

| As-Generated Volumes |                  |     |       |       |
|----------------------|------------------|-----|-------|-------|
| ContainerType        | Sto              | red | Proj. | Total |
| Drum / 55 gallon     |                  | 0.0 | 20.2  | 20.2  |
| Δs                   | -Generated Total | 0.0 | 20.2  | 20.2  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 20.2  | 20.2  |
|                    | -      |       |       |

**Final Form Total** 0.0 20.2 20.2

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

No Final Form Radionuclides Provided

#### **Waste Stream Description**

This waste will be generated from refurbishment of an alpha high-level hot cell.

#### **Management Comments**

N/A

| T: 1 \A/- |     |             |     |                      | Wests Metarial Dans |     |          | No Final For           |       |      |
|-----------|-----|-------------|-----|----------------------|---------------------|-----|----------|------------------------|-------|------|
| Local ID  | N/A | Handling    | RH  | Final Waste Form N/A | Waste Matrix Code   | N/A | Activity | y Concentrations as of | CY    | N/A  |
| HQ ID     | N/A | Stream Name | N/A |                      |                     |     |          | Inventory Date         | 9/30/ | 2002 |

#### Final Waste Form Descriptors

Category: Non-defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 12.5  | 12.5  |
|                      | As-Generated Total | 0.0    | 12.5  | 12.5  |

| ContainerType St | Stored | Proi. | Total |
|------------------|--------|-------|-------|
|                  |        | oj.   | iotai |
| RH Canister      | 0.0    | 12.5  | 12.5  |

Final Form Total 12.5 12.5

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

No Final Form **Radionuclides Provided** 

#### **Waste Stream Description**

The waste will be generated from the refurbishment of an alpha high-level hot cell.

#### **Management Comments**

N/A

| HQ ID    | N/A | Stream Name | SBW Tre | eatment Option 1 - Calcine Process - Calcine |                         |         | Inventory Date        | 9/30/2002 |
|----------|-----|-------------|---------|--|-------------------------|---------|-----------------------|-----------|
| Local ID | N/A | Handling    | RH      | Final Waste Form Solidified Inorganics       | Waste Matrix Code S3000 | Activit | y Concentrations as o | f CY 2009 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| Other                |                   | 0.0    | 0.0   | 0.0   |
| A                    | s-Generated Total | 0.0    | 0.0   | 0.0   |

| Final Form Volumes |        |        |        |
|--------------------|--------|--------|--------|
| ContainerType      | Stored | Proj.  | Total  |
| RH Canister        | 0.0    | 1100.0 | 1100.0 |

**Final Form Total** 

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 1200.00                       |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 499.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 3.11E-01                            |  |  |  |  |
| Am-243                   | 8.04E-05                            |  |  |  |  |
| Cm-244                   | 1.16E-02                            |  |  |  |  |
| Cs-137                   | 2.00E+02                            |  |  |  |  |
| Np-237                   | 6.28E-03                            |  |  |  |  |
| Pu-238                   | 3.79E+00                            |  |  |  |  |
| Pu-239                   | 4.51E-01                            |  |  |  |  |
| Pu-240                   | 3.73E-02                            |  |  |  |  |
| Pu-241                   | 2.00E+00                            |  |  |  |  |
| Pu-242                   | 5.96E-05                            |  |  |  |  |
| Pu-244                   | 5.10E-13                            |  |  |  |  |
| Sr-90                    | 1.61E+02                            |  |  |  |  |
| Th-230                   | 6.00E-07                            |  |  |  |  |
| U-233                    | 3.62E-07                            |  |  |  |  |
| U-234                    | 3.92E-03                            |  |  |  |  |
| U-235                    | 1.07E-04                            |  |  |  |  |
| U-236                    | 1.73E-04                            |  |  |  |  |
| U-238                    | 1.03E-04                            |  |  |  |  |

#### **Waste Stream Description**

The liquid SBW would be transferred from the storage tanks to the calcine process over a 2.5-year period. The calciner is a fluidized bed reactor that converts the metals dissolved in the nitric acid into a dry granular powder. The fluidized bed operates at temperature between 550 and 600 degrees centigrade. The SBW feed to the calcine process would be mixed with aluminum nitrate and calcium nitrate, to tie up sodium and potassium and fluoride in the fluidized bed. The calcine would be removed pneumatically from the fluidized bed and transferred to the canning facility and placed in to 72-B canisters. The calciner off-gas is scrubbed with nitric acid to cool and remove fine calcine, mercury and chlorides from the off-gas. The off-gas would then pass through HEPA filters. The calcine would be RH-TRU waste, dried to 1% moisture, and would generate approximately 1375 canisters with a surface dose rate <100 Rem/hr.

1100.0

1100.0

This treatment option was selected to be input into the 2002 update to the TWBIR, since only one option can be input. This is the bounding case for RH-TRU. Inventory will be adjusted accordingly when final option is determined.

#### **Management Comments**

The total inventory figures as to the waste volume and number of containers is based on preliminary process design calculation and could changes as the waste is retrieved and treated to a final waste form. Retrieval of the waste from the storage tanks, treatment, and shipping is planned to start in 2009 and be completed in 2012.

The calcine generated by the SBW Calcine/MACT Treatment Process would generate approximately 1375 72-B canisters with a surface dose rate of 50 Rem/hr. Calcine is a dry granular product.

| HQ ID    | N/A              | Stream Name | SBW Tr | reatment Option 1 - Calcine Process - Grouted Scrub | )                   |              | Inventory Date         | 9/30/2002 |
|----------|------------------|-------------|--------|---|---------------------|--------------|------------------------|-----------|
| Local ID | N/A              | Handling    | RH     | Final Waste Form Solidified Inorganics              | Waste Matrix Code   | S3000 Activi | ty Concentrations as o | f CY 2009 |
| Final Wa | ste Form Descrip | otors       |        |   | Waste Material Para | meters       | Final Form Radionu     | ıclides   |

#### Final waste Form Descriptors

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

RH Canister

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Other                |                    | 0.0    | 0.0   | 0.0   |
|                      | As-Generated Total | 0.0    | 0.0   | 0.0   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

|                  | 0.0 | 30.4 | 30.4 |
|------------------|-----|------|------|
| _                |     |      |      |
| Final Form Total | 0.0 | 30.4 | 30.4 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 1600.00                       |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 499.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 1.22E-02                            |  |  |  |  |
| Am-243                   | 3.15E-06                            |  |  |  |  |
| Cm-244                   | 4.53E-04                            |  |  |  |  |
| Cs-137                   | 7.84E+00                            |  |  |  |  |
| Np-237                   | 2.46E-04                            |  |  |  |  |
| Pu-238                   | 1.49E-01                            |  |  |  |  |
| Pu-239                   | 1.78E-02                            |  |  |  |  |
| Pu-240                   | 1.47E-03                            |  |  |  |  |
| Pu-241                   | 7.86E-02                            |  |  |  |  |
| Pu-242                   | 2.34E-06                            |  |  |  |  |
| Pu-244                   | 2.00E-14                            |  |  |  |  |
| Sr-90                    | 6.30E+00                            |  |  |  |  |
| Th-230                   | 2.35E-08                            |  |  |  |  |
| U-233                    | 1.42E-08                            |  |  |  |  |
| U-234                    | 1.54E-04                            |  |  |  |  |
| U-235                    | 4.19E-06                            |  |  |  |  |
| U-236                    | 6.77E-06                            |  |  |  |  |
| U-238                    | 4.05E-06                            |  |  |  |  |

#### **Waste Stream Description**

The liquid SBW would be transferred from the storage tanks to the calcine process over a 2.5-year period. The calciner is a fluidized bed reactor that converts the metals dissolved in the nitric acid into a dry granular powder. The fluidized bed operates at temperature between 550 and 600 degrees centigrade. The SBW feed to the calcine process would be mixed with aluminum nitrate and calcium nitrate, to tie up sodium and potassium and fluoride in the fluidized bed. The calcine would be removed pneumatically from the fluidized bed and transferred to the canning facility and placed in to 72-B canisters. The calciner off-gas is scrubbed with nitric acid to cool and remove fine calcine, mercury and chlorides from the off-gas. The scrubber blowdown would be grouted with 14 wt % Ca(OH)2, 9 wt % blast furnace slag and 7 wt % Portland cement. The grout would contain 30% moisture and packaged in RH-canister and generate approximately 38 canisters with a surface dose rate <100 Rem/hr.

#### **Management Comments**

The total inventory figures as to the waste volume and number of containers is based on preliminary process design calculation and could changes as the waste is retrieved and treated to a final waste form. Retrieval of the waste from the storage tanks, treatment, and shipping is planned to start in 2009 and be completed in 2012.

Grouted Scrub waste stream will generate approximately 38 canisters with a surface dose rate <100 Rem/hr.

Waste Stream ID: IN-TRA-BE-01

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name TRA Beryllium Blocks                       |   |       |                         |                                |                               |                   | ory Date 9/30/2002                  |
|--|---|-------|-------------------------|--------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa                                | RH Final Waste Form Uncategorized Metal |       | Waste Matrix Code S5000 | Activ                          | vity Concentrati              | ons as of CY 1995 |                                     |
| Final Waste Form Descriptors                                     |   |       |                         | Waste Material Parameters      |                               | Final Form        | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |   |       |                         | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |   |       |                         | Iron-Base Metal/Alloys         | 0.00                          | Am-241            | 4.89E-02                            |
| ContainerType  | Stored                                  | Proj. | Total                   | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137            | 6.11E+00                            |
| Other  | 4.0                                     | 5.0   |                         | Other Metal/Alloys             | 337.00                        | Pu-238            | 2.95E-02                            |
|  | ll                                      |       |                         | Other Inorganic Materials      | 0.00                          | Pu-239            | 5.90E-03                            |
| As-Generated Total   | 4.0                                     | 5.0   | 9.0                     | Cellulosics                    | 0.00                          | Pu-240            | 1.54E-02                            |
| Final Form Volumes   |   |       |                         | Rubber                         | 0.00                          | Pu-241            | 1.97E+00                            |
| ContainerType  | Stored                                  | Proj. | Total                   | Plastics                       | 0.00                          | Pu-242            | 3.23E-04                            |
| RH Canister  | 11.6                                    | 12.5  | 24.0                    | Solidified, Inorganic Matrix   | 0.00                          | Sr-90             | 1.80E+00                            |
|  | l                                       |       |                         | Cement (Solidified)            | 0.00                          | U-233             | 2.15E-05                            |
| Final Form Total   | 11.6                                    | 12.5  | 24.0                    | Vitrified                      | 0.00                          | U-234             | 5.50E-06                            |
|  |   |       |                         | Solidified, Organic Matrix     | 0.00                          | U-238             | 1.88E-06                            |
|  |   |       |                         | Soils                          | 0.00                          |                   | -                                   |
|  |   |       |                         | Packaging Material, Steel      | 454.00                        |                   |                                     |
|  |   |       |                         | Packaging Material, Plastic    | 0.00                          |                   |                                     |
|  |   |       |                         | Packaging Material, Lead       | 0.00                          |                   |                                     |
|  |   |       |                         | Packaging Material, Steel Plug | 0.00                          |                   |                                     |
|  |   |       |                         |                                |                               |                   |                                     |

#### **Waste Stream Description**

This waste stream consists of beryllium reflector blocks and outer shim control cylinders (OSCCs) removed from the Advanced Test Reactor (ATR) at INEEL.

#### **Management Comments**

This is a new waste stream and was not included in the previous Transuranic Waste Baseline Inventory Report submittal.

0.00

0.00

# Waste Stream ID: IN-W146.699

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W146 Stream Name TRU HEAVY METAL SLU                                | JDGE     |              |           |                              |                               | Invent            | ory Date 4/30/1995                  |
|--|----------|--------------|-----------|------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID ID-TRA-291T Handling CH Final Wa                                    | ste Form | Solidified I | norganics | Waste Matrix Code S3120      | Activ                         | ity Concentration | ons as of CY 1989                   |
| Final Waste Form Descriptors   |          |              |           | Waste Material Parameters    |                               | Final Form        | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste    |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241            | 3.24E-01                            |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Cm-244            | 4.06E-01                            |
| Drum   | 2.1      | 0.0          |           | Other Metal/Alloys           | 0.00                          | Cs-137            | 3.07E+01                            |
|  |          |              |           | Other Inorganic Materials    | 394.20                        | Pu-238            | 3.70E-01                            |
| As-Generated Total   | 2.1      | 0.0          | 2.1       | Cellulosics                  | 0.00                          | Pu-239            | 3.03E-01                            |
| Final Form Volumes   |          |              |           | Rubber                       | 0.00                          | Sr-90             | 4.18E+01                            |
| ContainerType  | Stored   | Proj.        | Total     | Plastics                     | 0.00                          | _                 |                                     |
| 55 Gallon Drum   | 2.3      | 0.0          | 2.3       | Solidified, Inorganic Matrix | 399.00                        |                   |                                     |
|  |          |              | <u>_</u>  | Cement (Solidified)          | 0.00                          |                   |                                     |
| Final Form Total   | 2.3      | 0.0          | 2.3       | Vitrified                    | 0.00                          |                   |                                     |
|  |          |              |           | Solidified, Organic Matrix   | 0.00                          |                   |                                     |
|  |          |              |           | Soils                        | 0.00                          |                   |                                     |
|  |          |              |           | Packaging Material, Steel    | 131.00                        |                   |                                     |
|  |          |              |           | Packaging Material, Plastic  | 37.00                         |                   |                                     |

#### **Waste Stream Description**

The waste stream was sludge generated from four catch tanks that were removed from service. The sludge was generated from activity in the TRA Hot Cell and the TRA Chemistry Laboratories. This was generated only "one time."

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

Contact radiation readings range from 800 mR/hr to 5000 mR/hr.

Waste Stream ID: IN-W159.1072 Appendix I DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID IN-W159 Stream Name EVAPORATOR AND DIS                                      |            |              |           |                              |                               |                   | ory Date 9/30/2002                  |
|---|------------|--------------|-----------|------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID   ID-MDO-811T   Handling   CH   Final Wa                                 | ste Form   | Solidified I | norganics | Waste Matrix Code S3125      | Activ                         | ity Concentration | ons as of CY 1989                   |
| Final Waste Form Descriptors  |            |              |           | Waste Material Parameters    |                               | Final Form        | Radionuclides                       |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3) | or Waste T | reatment F   | Process   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241            | 0.00E+00                            |
| ContainerType   | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238            | 7.88E+02                            |
| Drum  | 0.8        |              |           | Other Metal/Alloys           | 0.00                          | Pu-239            | 5.85E+00                            |
|   |            |              |           | Other Inorganic Materials    | 0.00                          | Pu-240            | 0.00E+00                            |
| As-Generated Total  | 8.0        | 0.0          | 0.8       | Cellulosics                  | 0.00                          | Pu-241            | 0.00E+00                            |
| Final Form Volumes  |            |              |           | Rubber                       | 0.00                          | Pu-242            | 0.00E+00                            |
| ContainerType   | Stored     | Proj.        | Total     | Plastics                     | 0.00                          |                   |                                     |
| SWB   | 1.9        |              | 1.9       | Solidified, Inorganic Matrix | 0.00                          |                   |                                     |
|   |            |              |           | Cement (Solidified)          | 0.00                          |                   |                                     |
| Final Form Total  | 1.9        | 0.0          | 1.9       | Vitrified                    | 0.00                          |                   |                                     |
|   |            |              |           | Solidified, Organic Matrix   | 0.00                          |                   |                                     |
|   |            |              |           | Soils                        | 0.00                          |                   |                                     |
|   |            |              |           | Packaging Material, Steel    | 211.00                        |                   |                                     |
|   |            |              |           | Packaging Material, Plastic  | 16.00                         |                   |                                     |
|   |            |              |           | Packaging Material, Lead     | 0.00                          |                   |                                     |

#### **Waste Stream Description**

This waste stream, generated at Mound Laboratory, consists of dry evaporator and dissolver sludge and insoluble residue. The consistency ranges from powder to sand-like particles. Limited amounts of other noncombustible wastes including Content Codes 803, 805, 810, 813, 814, 826, and 832 may be included. A few containers may have limited amounts of beryllium-contaminated wastes including glass, paper, gloves, and sample precipitates.

Packaging Material, Steel Plug

0.00

There is a potential for and lack of information on fines. In addition the drums may contain free liquids. The expected organic content in the drums is less than 14lb/ft3. No explosive, pyrophoric, or corrosive materials should be in the waste.

After removal from the bottom of dissolver pots, the dried sludge is rinsed with nitric acid and dried on a hotplate. Dried sludges are packaged in 1/2-gallon metal cans and sealed in a PE bag, or else packed in 1/2-gallon plastic-coated cardboard cartons and sealed in a PE bag. Each container is assayed and placed in PVC or PE sleeve bags. Sleeve bags can hold up to 5 containers per bag. Up to 8 sleeve bags are placed in each prepared 55-gallon drum. Drums are prepared according to post-1972 procedures, with plywood spacers as needed between on top of the rigid drum liner lid.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

| HQ ID IN-W325 Stream Name CLASSIFIED PARTS:Ce                                   | rt-repack  |           |             |                              |                               | Invent          | ory Date 4/30/1995                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-MDO-815T Handling CH Final Wa                                       | aste Form  | Heterogen | eous Debris | Waste Matrix Code S9000      | Activ                         | ity Concentrati | ons as of CY 1989                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Information Waste Volume Detail (m3) | on Not Com | piled     |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Pu-238          | 3.23E+01                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          |                 | <b></b>                             |
| Drum  | 0.2        |           |             | Other Metal/Alloys           | 0.30                          |                 |                                     |
|   | <u> </u>   |           |             | Other Inorganic Materials    | 11.10                         |                 |                                     |
| As-Generated Total  | 0.2        | 0.0       | 0.2         | Cellulosics                  | 63.00                         |                 |                                     |
| Final Form Volumes  |            |           |             | Rubber                       | 19.30                         |                 |                                     |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 191.80                        |                 |                                     |
| 55 Gallon Drum  | 0.4        | 0.0       | 0.4         | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
|   |            | ***       |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.4        | 0.0       | 0.4         | Vitrified                    | 0.00                          |                 |                                     |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |            |           |             | Soils                        | 0.00                          |                 |                                     |
|   |            |           |             | Packaging Material, Steel    | 131.00                        |                 |                                     |

#### **Waste Stream Description**

There is no content information for this waste stream, which was generated at Mound Laboratory. It is thought that there may be classified parts in this waste. Classified parts will be removed prior to shipment to WIPP and the stream will be declassified in final form.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

0.00

| HQ ID    | IN-W325                            | Stream Name CLASSIFIED PARTS:D | irect Ship   |           |             |                              |                               | Invent         | ory Date 4/30/1995                  |
|----------|------------------------------------|--------------------------------|--------------|-----------|-------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID | ID-MDO-815T                        | Handling CH Final W            | aste Form    | Heterogen | eous Debris | Waste Matrix Code S9000      | Activ                         | ty Concentrati | ons as of CY 1989                   |
| Final Wa | ste Form Descrip                   | tors                           |              |           |             | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
|          | pory: Defense TR olume Detail (m3) |                                | ion Not Com  | piled     |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes                    |                                |              |           |             | Iron-Base Metal/Alloys       | 0.00                          | Pu-238         | 3.23E+01                            |
|          | inerType                           |                                | Stored       | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          |                |                                     |
| Drum     |                                    |                                | 0.2          |           |             | Other Metal/Alloys           | 0.17                          |                |                                     |
|          |                                    |                                |              |           |             | Other Inorganic Materials    | 6.44                          |                |                                     |
|          |                                    | As-Generated Tota              | 0.2          | 0.0       | 0.2         | Cellulosics                  | 36.55                         |                |                                     |
| Final I  | Form Volumes                       |                                |              |           |             | Rubber                       | 11.20                         |                |                                     |
| Conta    | inerType                           |                                | Stored       | Proj.     | Total       | Plastics                     | 111.27                        |                |                                     |
|          | llon Drum                          |                                | 0.2          | 0.0       | 0.2         | Solidified, Inorganic Matrix | 0.00                          |                |                                     |
| SWB (    | used to overpack 5                 | 5 gallon drums                 | 0.6          | 0.0       | 0.6         | Cement (Solidified)          | 0.00                          |                |                                     |
|          |                                    | - g                            |              |           |             | Vitrified                    | 0.00                          |                |                                     |
|          |                                    | Final Form Tota                | <b>I</b> 0.8 | 0.0       | 0.8         | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|          |                                    |                                |              |           |             | Soils                        | 0.00                          |                |                                     |

#### **Waste Stream Description**

There is no content information for this waste stream, which was generated at Mound Laboratory. It is thought that there may be classified parts in this waste. Classified parts will be removed prior to shipment to WIPP and the stream will be declassified in final form.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

191.75

22.38

0.00

Original data shoed 1 SWB. Int. volume and # stored changed to more accurately reflect the waste volume of 0.5 m3 as follows: .5m3/.208 m3/drum = 2.404 drums. Rounded to 3 drums Tb 3/27/03.

| HQ ID           | IN-W341 Stream Name ANL-W HFEF ANALYTIC                         | AL CHEMI   | STRY AN   | D META:Cert | t-repack                     |                               | Invent        | ory Date 4/30/1995                  |
|-----------------|---|------------|-----------|-------------|------------------------------|-------------------------------|---------------|-------------------------------------|
| Local ID        | ID-ANL-160T Handling CH Final Wa                                | ste Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5440      | Activit                       | y Concentrati | ons as of CY 1989                   |
| Final Wa        | ste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form    | Radionuclides                       |
| Cate<br>Waste V | Defense TRU Waste Source: Source Information Colume Detail (m3) | n Not Com  | piled     |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope       | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge           | nerated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Pu-239        | 9.39E+00                            |
|                 | inerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239        | 9.39E+00                            |
| RH Ins          |   | 0.2        | 0.0       |             | Other Metal/Alloys           | 0.00                          | U-235         | 1.33E-03                            |
|                 |   |            |           |             | Other Inorganic Materials    | 0.00                          | U-235         | 1.33E-03                            |
|                 | As-Generated Total  | 0.2        | 0.0       | 0.2         | Cellulosics                  | 0.00                          | <u> </u>      |                                     |
| Final           | Form Volumes  |            |           |             | Rubber                       | 0.00                          |               |                                     |
| Conta           | inerType  | Stored     | Proj.     | Total       | Plastics                     | 0.00                          |               |                                     |
|                 | llon Drum   | 0.2        | 0.0       |             | Solidified, Inorganic Matrix | 0.00                          |               |                                     |
|                 |   | **-        |           |             | Cement (Solidified)          | 0.00                          |               |                                     |
|                 | Final Form Total  | 0.2        | 0.0       | 0.2         | Vitrified                    | 0.00                          |               |                                     |
|                 |   |            |           |             | Solidified, Organic Matrix   | 0.00                          |               |                                     |
|                 |   |            |           |             | Soils                        | 0.00                          |               |                                     |

#### **Waste Stream Description**

This wastestream, which was generated at ANL-W was generated during analytical chemistry and metallography operations. Item Description Code (IDC) 153 was replaced by IDC 160, ANL-W HFEF Analytical Chemistry and Metallographic Combsutibles. The waste package contains lead as shielding.

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

131.00

37.00

0.00

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

| HQ ID    | IN-W341          | Stream Name ANL-W HFEF ANALYTIC | AL CHEMI  | STRY AN  | D META:D | irect Ship             |                               | Invent     | ory Date N/A                          |  |  |
|----------|------------------|---------------------------------|-----------|--|----------|------------------------|-------------------------------|------------|---------------------------------------|--|--|
| Local ID | ID-ANL-160T      | Handling CH Final Wa            | ste Form  | te Form Heterogeneous Debris Waste Matrix Code S5440 |          |                        |                               |            | Activity Concentrations as of CY 1989 |  |  |
| Final Wa | ste Form Descrip | tors                            |           |  |          | Waste Material Parame  | eters                         | Final Form | Radionuclides                         |  |  |
| Categ    | pory: Defense TF |                                 | n Not Com | piled  |          | Material Parameter     | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)   |  |  |
| As-Ge    | nerated Volumes  |                                 |           |  |          | Iron-Base Metal/Alloys | 0.00                          | Pu-239     | 3.10E+00                              |  |  |
|          | inerType         |                                 | Stored    | Proj.  | Total    | Aluminum-Base Metal/A  | Alloys 0.00                   | Pu-239     | 3.10E+00                              |  |  |
| RH Ins   |                  |                                 | 0.2       |  |          | Other Metal/Alloys     | 0.00                          | U-235      | 4.38E-04                              |  |  |
|          |                  |                                 |           | Other Inorganic Materia                              | ls 0.00  |                        |                               |            |                                       |  |  |
|          |                  | As-Generated Total              | 0.2       | 0.0  | 0.2      | Cellulosics            | 0.00                          |            |                                       |  |  |

Total

1.9

1.9

Stored

Final Form Total

1.9

1.9

Proj.

0.0

0.0

Rubber

**Plastics** 

Vitrified

Soils

Solidified, Inorganic Matrix

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Cement (Solidified)

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

211.00 16.00

#### **Waste Stream Description**

Final Form Volumes

SWB used to overpack 55 gallon drums

ContainerType

This wastestream, which was generated at ANL-W was generated during analytical chemistry and metallography operations. Item Description Code (IDC) 153 was replaced by IDC 160, ANL-W HFEF Analytical Chemistry and Metallographic Combsutibles. The waste package contains lead as shielding.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

| HQ ID    | IN-W350          | Stream Name | SPECIA | L SOURCE MATERIAL:Direct Ship |           |                     |        |          | Inventory Date      | 4/30/  | /1995 |
|----------|------------------|-------------|--------|-------------------------------|-----------|---------------------|--------|----------|---------------------|--------|-------|
| Local ID | ID-AEO-106T      | Handling    | СН     | Final Waste Form Heterogeneou | us Debris | Waste Matrix Code   | S9000  | Activity | Concentrations as o | f CY   | 1989  |
| Final Wa | ste Form Descrip | tors        |        |                               |           | Waste Material Para | meters |          | Final Form Radionu  | clides | s     |

### Waste Volume Detail (m3)

Category:

Defense TRU Waste

| As-Generated Volumes |             |        |       |       |
|----------------------|-------------|--------|-------|-------|
| ContainerType        |             | Stored | Proj. | Total |
| Drum                 |             | 0.2    | 0.0   | 0.2   |
| As-Gene              | rated Total | 0.2    | 0.0   | 0.2   |

Source: Source Information Not Compiled

| Final Form Volumes                   |        |       |       |  |  |  |  |  |
|--------------------------------------|--------|-------|-------|--|--|--|--|--|
| ContainerType                        | Stored | Proj. | Total |  |  |  |  |  |
| 55 Gallon Drum                       | 0.2    | 0.0   | 0.2   |  |  |  |  |  |
| SWB used to overpack 55 gallon drums | 0.0    | 0.0   | 0.6   |  |  |  |  |  |
|                                      |        |       |       |  |  |  |  |  |

**Final Form Total** 0.8 0.0 0.8

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 191.75                        |
| Packaging Material, Plastic    | 22.38                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Pu-239  | 5.74E+01                            |
| Pu-240  | 1.76E+02                            |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at ANL-E.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Original data showed 1 SWB. Int. volume and # stored changed to more accurately reflect the waste volume of 0.5 m3 as follows: .5 m3 / .208 m3 / drum = 2.404 drums, rounded to 3 drums. Tb 3/27/03.

| HQ ID IN-W350 Stream Name SPECIAL SOURCE MATE                                    |           |       | eous Debris | Waste Matrix Code S9000      | Activi                        |         | ory Date 4/30/1995                  |
|--|-----------|-------|-------------|------------------------------|-------------------------------|---------|-------------------------------------|
| Final Waste Form Descriptors   | _         |       |             | Waste Material Parameters    | ,                             |         | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Information  Waste Volume Detail (m3) | n Not Com | piled |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |       |             | Iron-Base Metal/Alloys       | 0.00                          | Pu-239  | 5.74E+01                            |
| ContainerType  | Stored    | Proj. | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-240  | 1.76E+02                            |
| Drum   | 0.2       | 0.0   |             | Other Metal/Alloys           | 0.00                          |         |                                     |
| <u></u>  |           |       |             | Other Inorganic Materials    | 0.00                          |         |                                     |
| As-Generated Total   | 0.2       | 0.0   | 0.2         | Cellulosics                  | 0.00                          |         |                                     |
| Final Form Volumes   |           |       |             | Rubber                       | 0.00                          |         |                                     |
| ContainerType  | Stored    | Proj. | Total       | Plastics                     | 0.00                          |         |                                     |
| 55 Gallon Drum   | 0.2       | 0.0   | 0.2         | Solidified, Inorganic Matrix | 0.00                          |         |                                     |
|  |           |       |             | Cement (Solidified)          | 0.00                          |         |                                     |
| Final Form Total   | 0.2       | 0.0   | 0.2         | Vitrified                    | 0.00                          |         |                                     |
|  |           |       |             | Solidified, Organic Matrix   | 0.00                          |         |                                     |
|  |           |       |             | Soils                        | 0.00                          |         |                                     |
|  |           |       |             | Packaging Material, Steel    | 131.00                        |         |                                     |
|  |           |       |             | Packaging Material, Plastic  | 37.00                         |         |                                     |
|  |           |       |             | Packaging Material, Lead     | 0.00                          |         |                                     |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at ANL-E.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

0.00

Packaging Material, Steel Plug

| HQ ID    | IN-W353          | Stream Name SOLIDIFIED SOLUTION | IS:Direct Sh                    | nip   |       |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|------------------|---------------------------------|---------------------------------|-------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID  | ID-BTO-050TN     | Handling CH Final W             | aste Form Solidified Inorganics |       |       | Waste Matrix Code S3113      | Activ                         | ity Concentrati | ons as of CY 1989                   |
| Final Wa | ste Form Descrip | tors                            |                                 |       |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
|          | pory: Defense TR |                                 | on Not Com                      | piled |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes |                                 |                                 |       |       | Iron-Base Metal/Alloys       | 0.00                          | Np-237          | 3.33E-04                            |
|          | inerType         |                                 | Stored                          | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239          | 1.20E-01                            |
| Drum     |                  |                                 | 0.2                             | 0.0   | 0.2   | Other Metal/Alloys           | 0.00                          | <u> </u>        | •                                   |
|          |                  |                                 |                                 |       |       | Other Inorganic Materials    | 0.00                          |                 |                                     |
|          |                  | As-Generated Total              | 0.2                             | 0.0   | 0.2   | Cellulosics                  | 0.00                          |                 |                                     |
| Final    | Form Volumes     |                                 |                                 |       |       | Rubber                       | 0.00                          |                 |                                     |
|          | inerType         |                                 | Stored                          | Proj. | Total | Plastics                     | 0.00                          |                 |                                     |
| SWB      |                  |                                 | 1.9                             | _     | 1.9   | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
|          |                  |                                 |                                 |       |       | Cement (Solidified)          | 0.00                          |                 |                                     |
|          |                  | Final Form Total                | 1.9                             | 0.0   | 1.9   | Vitrified                    | 0.00                          |                 |                                     |
|          |                  |                                 |                                 |       |       | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|          |                  |                                 |                                 |       |       | Soils                        | 0.00                          |                 |                                     |
|          |                  |                                 |                                 |       |       | Packaging Material, Steel    | 211.00                        |                 |                                     |
|          |                  |                                 |                                 |       |       | Packaging Material, Plastic  | 16.00                         |                 |                                     |
|          |                  |                                 |                                 |       |       | Packaging Material Lead      | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream is from Bettis Atomic Power Laboratory. It consists of a single drum of TRU. No more information is available, but the waste is thought to be solidified inorganic solutions.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

0.00

Packaging Material, Steel Plug

| HQ ID IN-W359 Stream Name NEUTRON SOURCES                                       |           |            |           |                               |                               | Invento          | ory Date 4/30/1995                  |
|---|-----------|------------|-----------|-------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID   ID-BTO-015TN   Handling   CH   Final Wa                              | ste Form  | Jncategori | zed Metal | Waste Matrix Code S9000       | Activi                        | ty Concentration | ons as of CY 1989                   |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters     |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Informatio  Waste Volume Detail (m3) | n Not Com | piled      |           | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |           | Iron-Base Metal/Alloys        | 0.00                          | Pu-238           | 1.41E+02                            |
| ContainerType   | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys    | 0.00                          |                  |                                     |
| Drum  | 0.6       | 0.0        | 0.6       | Other Metal/Alloys            | 0.00                          |                  |                                     |
|   | l         |            |           | Other Inorganic Materials     | 0.00                          |                  |                                     |
| As-Generated Total  | 0.6       | 0.0        | 0.6       | Cellulosics                   | 0.00                          |                  |                                     |
| Final Form Volumes  |           |            |           | Rubber                        | 0.00                          |                  |                                     |
| ContainerType   | Stored    | Proj.      | Total     | Plastics                      | 0.00                          |                  |                                     |
| 55 Gallon Drum  | 0.8       | 0.0        | 0.8       | Solidified, Inorganic Matrix  | 0.00                          |                  |                                     |
|   |           |            | <u>_</u>  | Cement (Solidified)           | 0.00                          |                  |                                     |
| Final Form Total  | 8.0       | 0.0        | 8.0       | Vitrified                     | 0.00                          |                  |                                     |
|   |           |            |           | Solidified, Organic Matrix    | 0.00                          |                  |                                     |
|   |           |            |           | Soils                         | 0.00                          |                  |                                     |
|   |           |            |           | Packaging Material, Steel     | 131.00                        |                  |                                     |
|   |           |            |           | Packaging Material, Plastic   | 37.00                         |                  |                                     |
|   |           |            |           | Packaging Material, Lead      | 0.00                          |                  |                                     |
|   |           |            |           | Packaging Material Steel Plug | 0.00                          |                  |                                     |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at Bettis Atomic Power Laboratory.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

| IQ ID IN-W360 Stream Name MISCELLANEOUS SOUR           |   | '                  |                               |                              |        | Inventory Date 4/30/1995          |
|--|---|--------------------|-------------------------------|------------------------------|--------|-----------------------------------|
| ocal ID   ID-BTO-012TN   Handling   CH   Final Wa      | CH Final Waste Form Uncategorized Metal |                    |                               | Waste Matrix Code S9000      | Activ  | vity Concentrations as of CY 1989 |
| Final Waste Form Descriptors                           |   |                    |                               | Waste Material Parameters    |        | No Final Form                     |
| Category: Defense TRU Waste Source: Source Information | n Not Com                               | Material Parameter | Average<br>Density<br>(kg/m3) | Radionuclides Provided       |        |                                   |
| Waste Volume Detail (m3)                               |   |                    |                               | Iron-Base Metal/Alloys       | 0.00   |                                   |
| As-Generated Volumes                                   |   |                    |                               | Aluminum-Base Metal/Alloys   | 0.00   |                                   |
| ContainerType  | Stored                                  | Proj.              | Total                         | Other Metal/Alloys           | 0.00   |                                   |
| Drum   | 0.2                                     | 0.0                | 0.2                           | Other Inorganic Materials    | 0.00   |                                   |
| As Computed Total                                      | 0.2                                     | 0.0                | 0.2                           | Cellulosics                  | 0.00   |                                   |
| As-Generated Total                                     | 0.2                                     | 0.0                | 0.2                           | Rubber                       | 0.00   |                                   |
| Final Form Volumes                                     |   |                    |                               | Plastics                     | 0.00   |                                   |
| ContainerType  | Stored                                  | Proj.              | Total                         | Solidified, Inorganic Matrix | 0.00   |                                   |
| 55 Gallon Drum   | 0.2                                     | 0.0                | 0.2                           | Cement (Solidified)          | 0.00   |                                   |
| SWB used to overpack 55 gallon drums                   | 0.6                                     | 0.0                | 0.6                           | Vitrified                    | 0.00   |                                   |
| Final Faura Tatal                                      | 0.8                                     | 0.0                | 0.0                           | Solidified, Organic Matrix   | 0.00   |                                   |
| Final Form Total                                       | 0.6                                     | 0.0                | 0.8                           | Soils                        | 0.00   |                                   |
|  |   |                    |                               | Packaging Material, Steel    | 191.75 |                                   |
|  |   |                    |                               | Packaging Material Plastic   | 22.38  |                                   |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at Bettis Atomic Power Laboratory.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Lead
Packaging Material, Steel Plug

0.00

0.00

Original data showed 1 SWB. Int. volume and # stored changed to more accurately reflect the waste volume of 0.5 m3 as follows: .5 m3 / .208 m3 / drum = 2.404 drums, rounded to 3 drums. Tb 3/27/03.

Waste Stream ID: IN-W360.912 Appendix I DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W360 Stream Name MISCELLANEOUS SOUF Local ID ID-BTO-012TN Handling CH Final Wa | RCES:Cert |       | zed Metal | Waste Matrix Code S9000        | Acti                          | Inventory Date 4/30/1995 ivity Concentrations as of CY 1989 |
|---|-----------|-------|-----------|--------------------------------|-------------------------------|---|
| Final Waste Form Descriptors  |           |       |           | Waste Material Parameters      |                               | No Final Form   |
| Category: Defense TRU Waste Source: Source Information Not Compiled                     |           |       |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided                                      |
| Waste Volume Detail (m3)  |           |       |           | Iron-Base Metal/Alloys         | 0.00                          |   |
| As-Generated Volumes  |           |       |           | Aluminum-Base Metal/Alloys     | 0.00                          |   |
| ContainerType   | Stored    | Proj. | Total     | Other Metal/Alloys             | 0.00                          |   |
| Drum  | 0.2       | 0.0   | 0.2       | Other Inorganic Materials      | 0.00                          |   |
| As Compreted Total  | 0.2       | 0.0   | 0.2       | Cellulosics                    | 0.00                          |   |
| As-Generated Total  | 0.2       | 0.0   | 0.2       | Rubber                         | 0.00                          |   |
| Final Form Volumes  |           |       |           | Plastics                       | 0.00                          |   |
| ContainerType   | Stored    | Proj. | Total     | Solidified, Inorganic Matrix   | 0.00                          |   |
| 55 Gallon Drum  | 0.2       | 0.0   | 0.2       | Cement (Solidified)            | 0.00                          |   |
| Final Form Total  | 0.2       | 0.0   | 0.2       | Vitrified                      | 0.00                          |   |
| Fillal FOIII Total  | 0.2       | 0.0   | 0.2       | Solidified, Organic Matrix     | 0.00                          |   |
|   |           |       |           | Soils                          | 0.00                          |   |
|   |           |       |           | Packaging Material, Steel      | 131.00                        |   |
|   |           |       |           | Packaging Material, Plastic    | 37.00                         |   |
|   |           |       |           | Packaging Material, Lead       | 0.00                          |   |
|   |           |       |           | Packaging Material, Steel Plug | 0.00                          |   |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at Bettis Atomic Power Laboratory.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

1.21E-03

9.93E-05

5.13E-05

2.10E-03

### Waste Stream ID: IN-Z001

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-Z001 Stream Name RFP Buried TRU Waste                                  | at INEEL (I | Pre-1970) |        |                              |                               | Invent     | ory Date 11/5/2004                  |
|---|-------------|-----------|--------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling U Final Wa  | ste Form    | N/A       |        | Waste Matrix Code U9999      | Activ                         |            | ons as of CY 1970                   |
| Final Waste Form Descriptors  |             |           |        | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: INEEL Pit 1, 2, 4, Waste Volume Detail (m3) | 5, 6, 9, 10 |           |        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |           |        | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.28E+00                            |
| ContainerType   | Stored      | Proj.     | Total  | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243     | 2.40E-03                            |
| Not contained   | 439.0       |           |        | Other Metal/Alloys           | 0.00                          | Np-237     | 4.73E-05                            |
|   |             |           |        | Other Inorganic Materials    | 0.00                          | Pu-238     | 3.06E-01                            |
| As-Generated Total  | 439.0       | 0.0       | 439.0  | Cellulosics                  | 0.00                          | Pu-239     | 1.16E+00                            |
| Final Form Volumes  |             |           |        | Rubber                       | 0.00                          | Pu-240     | 3.06E-01                            |
| ContainerType   | Stored      | Proj.     | Total  | Plastics                     | 0.00                          | Pu-241     |                                     |
| 55 Gallon Drum  | 0.0         | •         |        | Solidified, Inorganic Matrix | 0.00                          | Pu-242     |                                     |
| oo Canon Brain  | 0.0         | 340.0     | 3 13.0 | Cement (Solidified)          | 0.00                          | U-233      | 2.71E-05                            |

645.0

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

947.70

131.00

37.00

0.00

U-234

U-235

U-236

U-238

645.0

0.0

#### **Waste Stream Description**

This waste stream is the remaining sludge left as undefined sludge from the original IN-Z001 waste stream.

Final Form Total

#### **Management Comments**

Since this sludge is undefined, its characteristics are unknown and will remain in this waste stream until further information is known about this sludge.

DOE/TRU-2006-3344 Appendix I Waste Stream ID: IN-Z001A

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | .,           |            |             |                              |                               |                  |                                     |
|--|--------------|------------|-------------|------------------------------|-------------------------------|------------------|-------------------------------------|
| HQ ID N/A Stream Name INEEL Disposed Irradiate     | ed Berylliur | n Reflecto | r Waste     |                              |                               | Invent           | ory Date 9/30/2002                  |
| Local ID New Handling RH Final Wa                  | ste Form     | Uncategor  | rized Metal | Waste Matrix Code S5000      | Activ                         | vity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors                       |              |            |             | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |              |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                               |              |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241           | 1.38E-01                            |
| ContainerType                                      | Stored       | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243           | 7.63E-02                            |
| Not contained                                      | 2.6          |            |             | Other Metal/Alloys           | 0.00                          | Cm-244           | 1.26E+01                            |
|  |              | 1          |             | Other Inorganic Materials    | 0.00                          | Cs-137           | 2.74E+01                            |
| As-Generated Total                                 | 2.6          | 0.0        | 2.6         | Cellulosics                  | 0.00                          | Np-237           | 4.57E-03                            |
| Final Form Volumes                                 |              | Rubber     | 0.00        | Pu-238                       | 1.49E-01                      |                  |                                     |
| ContainerType                                      | Stored       | Proj.      | Total       | Plastics                     | 0.00                          | Pu-239           | 5.06E-01                            |
| container type                                     | 0.0          |            |             | Solidified, Inorganic Matrix | 0.00                          | Pu-240           | 2.45E-01                            |
|  | 0.0          | 0.0        | 0.0         | Cement (Solidified)          | 0.00                          | Pu-241           | 1.09E+01                            |
| Final Form Total                                   | 0.0          | 0.0        | 0.0         | Vitrified                    | 0.00                          | Du-242           | 2.60E-01                            |

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

0.00

0.00

0.00

0.00

Pu-242

Pu-244

Th-229

Th-230

U-233

U-234

U-235

U-236

U-238

Sr-90

2.60E-01

3.78E-05

7.55E+00

7.60E-07

3.68E-07

8.61E-03

5.06E-03

1.50E-03

1.97E-02

1.67E+01

Final Form Total

#### **Waste Stream Description**

The INEEL disposed of 2.562 m3 of highly active irradiated beryllium reflector waste in the Radioactive Waste Management Complex (RWMC) Subsurface Disposal Area (SDA) between 1970 and 1993. It originated from the Advanced Test Reactor, the Engineering Test Reactor, and

the Materials Test Reactor at INEEL and was buried in trenches and soil vault rows at the SDA. This TRU waste will be retrieved in accordance with the Settlement Agreement of 1995, the Record of Decision in 1998, and the U.S. District Court ruling of April 1, 2003. The

treatment methods, if any, and the final form of the waste are yet to be determined. For planning purposes, it is assumed that the final form of this TRU waste (2.562 m3) will have an activity of at least 100 nCi/g and will, therefore, be eligible for disposal/storage at WIPP, from a minimum concentration requirement. (In fact, the activity is high enough that it is expected to require remote handling.) The volume of material shown in this profile represents only the waste. It does not include any contaminated soil that may meet the 100 nCi/g criterion, making it eligible for disposal/storage at WIPP also. Since no soil is included in the volume, there is also no dilution of high activity concentrations. For performance assessment purposes, it is suggested that decay be initiated on January 1, 1994.

#### Source for Profile Data:

Mullen, Carlan K. et al, 2003, Beryllium Waste Transuranic Inventory in the Subsurface Disposal Area, Operable Unit 7-13/14, INEEL/EXT-01-01678, Rev 2, Idaho National Engineering and Environmental Laboratory (INEEL), Idaho. (Tables 1-1, 7-15, 7-23, and 7-24.)

**Management Comments** 

N/A

0.00

#### Waste Stream ID: KN-B234PCBTRU

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Building 234 PCB TRU W                                 | 'aste      |           |             |                                  |                               | Invent           | ory Date 9/30/2002                  |  |
|--|------------|-----------|-------------|----------------------------------|-------------------------------|------------------|-------------------------------------|--|
| Local ID B234PCBTRU Handling CH Final Wa                                     | ste Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5400 Activity |                               | /ity Concentrati | y Concentrations as of CY 2002      |  |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters        |                               | Final Form       | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste      |           |             | Material Parameter               | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys           | 10.70                         | Am-241           | 1.58E-02                            |  |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys       | 0.00                          | Pu-238           | 2.68E-03                            |  |
| Drum / 55 gallon   | 0.4        | 0.2       |             | Other Metal/Alloys               | 0.00                          | Pu-239           | 3.18E-02                            |  |
|  | l          |           |             | Other Inorganic Materials        | 0.00                          | Pu-240           | 1.07E-02                            |  |
| As-Generated Total   | 0.4        | 0.2       | 0.6         | Cellulosics                      | 2.10                          | Pu-241           | 5.63E-02                            |  |
| Final Form Volumes   |            |           |             | Rubber                           | 21.50                         | Pu-242           | 1.15E-06                            |  |
| ContainerType  | Stored     | Proj.     | Total       | Plastics                         | 2.20                          | Th-232           | 8.29E-08                            |  |
| 55 Gallon Drum   | 0.4        | 0.2       | <del></del> | Solidified, Inorganic Matrix     | 0.00                          | U-233            | 4.55E-05                            |  |
|  |            |           | <u></u>     | Cement (Solidified)              | 0.00                          | U-234            | 3.04E-06                            |  |
| Final Form Total   | 0.4        | 0.2       | 0.6         | Vitrified                        | 0.00                          | U-235            | 1.45E-07                            |  |
|  |            |           |             | Solidified, Organic Matrix       | 0.00                          | U-238            | 1.66E-06                            |  |
|  |            |           |             | Soils                            | 0.00                          |                  |                                     |  |
|  |            |           |             | Packaging Material, Steel        | 0.00                          |                  |                                     |  |
|  |            |           |             | Packaging Material, Plastic      | 0.00                          |                  |                                     |  |
|  |            |           |             | Packaging Material, Lead         | 0.00                          |                  |                                     |  |

#### **Waste Stream Description**

This waste is non-hazardous debris and soil from Building 234. The debris consists of metal chips/shavings, dust, cheesecloth, gloves, and plastic bottles from the cleanout of the shear baler used to decommission process equipment and glove boxes. It also includes rubber gasket material used to install glove boxes.

Packaging Material, Steel Plug

#### **Management Comments**

N/A

#### Waste Stream ID: LA-OS-00-02

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Isotopic sources waiting of                    | determinati        | on of eligib                  | oility for WIPP | disposal.                           |       | Invento    | ory Date 9/30/2002 |
|--|--------------------|-------------------------------|-----------------|-------------------------------------|-------|------------|--------------------|
| Local ID OS-00-02 Handling CH Final Wa                               | ste Form           | Jncategori                    | zed Metal       | Waste Matrix Code S5100             | Activ |            | ons as of CY 2001  |
| Final Waste Form Descriptors   |                    |                               |                 | Waste Material Parameters           |       | Final Form | Radionuclides      |
| Category: Non-defense TRU Waste Source: N/A Waste Volume Detail (m3) | Material Parameter | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |       |            |                    |
| As-Generated Volumes   |                    |                               |                 | Iron-Base Metal/Alloys              | 0.00  | Pu-238     | 2.97E+00           |
| ContainerType  | Stored             | Proj.                         | Total           | Aluminum-Base Metal/Alloys          | 0.00  | <u> </u>   |                    |
| POC  | 0.0                |                               | 157.2           | Other Metal/Alloys                  | 0.00  |            |                    |
|  |                    |                               |                 | Other Inorganic Materials           | 0.00  |            |                    |
| As-Generated Total   | 0.0                | 157.2                         | 157.2           | Cellulosics                         | 0.00  |            |                    |
| Final Form Volumes   |                    |                               |                 | Rubber                              | 0.00  |            |                    |
| ContainerType  | Stored             | Proj.                         | Total           | Plastics                            | 0.00  |            |                    |
| POC  | 0.0                | 157.2                         | 157.2           | Solidified, Inorganic Matrix        | 0.00  |            |                    |
|  |                    |                               |                 | Cement (Solidified)                 | 0.00  |            |                    |
| Final Form Total   | 0.0                | 157.2                         | 157.2           | Vitrified                           | 0.00  |            |                    |
|  |                    |                               |                 | Solidified, Organic Matrix          | 0.00  |            |                    |
|  |                    |                               |                 | Soils                               | 0.00  |            |                    |
|  |                    |                               |                 | Packaging Material, Steel           | 0.00  |            |                    |
|  |                    |                               |                 | Packaging Material, Plastic         | 0.00  |            |                    |
|  |                    |                               |                 | Packaging Material, Lead            | 0.00  |            |                    |
|  |                    |                               |                 | Packaging Material, Steel Plug      | 0.00  |            |                    |

#### **Waste Stream Description**

Not provided

#### **Management Comments**

Former WS IDs: LAT009, also containes containers not previously associated with an identified BIR WS

### Waste Stream ID: LA-TA-00-01

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Local ID TA-00-01 Handling CH Final                              | N/A Stream Name Containers waiting assignment to waste streams  TA-00-01 Handling CH Final Waste Form N/A |       |       |                                | Inventory Date 9/30/2003 Activity Concentrations as of CY 1976 |                 |                                     |  |
|--|---|-------|-------|--------------------------------|--|-----------------|-------------------------------------|--|
| Local ID 1A-00-01 Handling Off Final                             | waste Form  | N/ /\ |       | Waste Matrix Code S9000        | ACIIV  | nty Concentrati | ons as of CT                        |  |
| Final Waste Form Descriptors                                     |   |       |       | Waste Material Parameters      |  | Final Form      | Radionuclides                       |  |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |   |       |       | Material Parameter             | Average<br>Density<br>(kg/m3)                                  | Isotope         | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |   |       |       | Iron-Base Metal/Alloys         | 20.51  | Am-241          | 1.88E-04                            |  |
| ContainerType  | Stored  | Proj. | Total | Aluminum-Base Metal/Alloys     | 2.80   | Cm-244          | 2.88E-02                            |  |
| 55 Gallon Drum   | 8.9   |       | 8.9   | Other Metal/Alloys             | 2.28   | Pu-238          | 3.38E-02                            |  |
| 85 gal   | 1.0   | 0.0   | 1.0   | Other Inorganic Materials      | 102.54   | Pu-239          | 3.98E-03                            |  |
| Other (large)  | 63.0  | 0.0   | 63.0  | Cellulosics                    | 2.22   | Pu-240          | 1.20E-04                            |  |
| Other (medium)   | 4.0   | 0.0   | 4.0   | Rubber                         | 1.16   | Pu-241          | 2.44E-03                            |  |
| Other (small)  | 0.0   | 0.0   | 0.0   | Plastics                       | 4.59   | Pu-242          | 1.46E-08                            |  |
|  |   |       |       | Solidified, Inorganic Matrix   | 0.18   | U-235           | 2.12E-10                            |  |
| As-Generated To  | <b>tal</b> 76.9   | 0.0   | 76.9  | Cement (Solidified)            | 0.00   |                 |                                     |  |
| Final Form Volumes   |   |       |       | Vitrified                      | 0.00   |                 |                                     |  |
| ContainerType  | Stored  | Proj. | Total | Solidified, Organic Matrix     | 1.09   |                 |                                     |  |
| 55 Gallon Drum   | 8.9   | 0.0   | 8.9   | Soils                          | 0.18   |                 |                                     |  |
| 85 gal   | 1.0   | 0.0   | 1.0   | Packaging Material, Steel      | 131.00   |                 |                                     |  |
| Other (large)  | 63.0  | 0.0   | 63.0  | Packaging Material, Plastic    | 37.00  |                 |                                     |  |
| Other (medium)   | 4.0   | 0.0   |       | Packaging Material, Lead       | 0.00   |                 |                                     |  |
| Other (small)  | 0.0   | 0.0   | 0.0   | Packaging Material, Steel Plug | 0.00   |                 |                                     |  |
| Waste Stream Description Final Form To                           | tal 76.9  | 0.0   | 76.9  |                                |  |                 |                                     |  |
| Containers waiting assignment to waste streams                   |   |       |       |                                |  |                 |                                     |  |

**Management Comments** 

Former WS IDs: LAM003, LAM009, LAMR01, LAT001, LAT005, LAT008, and LAT009

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID N/A Stream Name Containers waiting assign coal ID TA-00-02 Handling CH Final Wa | ment to wa |       | ns    | Waste Matrix Code S9000        | Activ                         |         | ory Date 9/30/2002<br>ons as of CY 1973 |
|---|------------|-------|-------|--------------------------------|-------------------------------|---------|---|
| Final Waste Form Descriptors  | iste i Omi | 4// ( |       | Waste Material Parameters      | Activ                         | -       | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)                      |            |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241  | 2.16E-04                                |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Am-243  | 8.40E-09                                |
| 30 gal  | 0.1        | 0.0   | 0.1   | Other Metal/Alloys             | 0.00                          | Cs-137  | 1.45E-09                                |
| 55 Gallon Drum  | 8.1        | 0.0   | 8.1   | Other Inorganic Materials      | 0.00                          | Np-237  | 2.39E-08                                |
| FRP Box   | 65.2       | 0.0   | 65.2  | Cellulosics                    | 0.00                          | Pu-238  | 1.89E-02                                |
| Other (large)   | 26.0       | 0.0   | 26.0  | Rubber                         | 0.00                          | Pu-239  | 3.05E-03                                |
| Other (small)   | 0.1        | 0.0   | 0.1   | Plastics                       | 0.00                          | Pu-240  | 5.09E-04                                |
| RH Can (2 gal)  | 0.0        | 0.0   | 0.0   | Solidified, Inorganic Matrix   | 0.00                          | Pu-241  | 8.15E-03                                |
| Standard Waste Box  | 5.7        | 0.0   | 5.7   | Cement (Solidified)            | 0.00                          | Pu-242  | 3.87E-08                                |
|   |            |       |       | Vitrified                      | 0.00                          | Pu-244  | 1.51E-08                                |
| As-Generated Total  | 105.2      | 0.0   | 105.2 | Solidified, Organic Matrix     | 0.00                          | U-233   | 4.52E-10                                |
| Final Form Volumes  |            |       |       | Soils                          | 0.00                          | U-234   | 1.17E-08                                |
| ContainerType   | Stored     | Proj. | Total | Packaging Material, Steel      | 0.00                          | U-235   | 1.07E-08                                |
| 30 gal  | 0.1        | 0.0   | 0.1   | Packaging Material, Plastic    | 0.00                          | U-236   | 4.60E-11                                |
| 55 Gallon Drum  | 8.1        | 0.0   | 8.1   | Packaging Material, Lead       | 0.00                          | U-238   | 3.86E-08                                |
| FRP Box   | 65.2       | 0.0   | 65.2  | Packaging Material, Steel Plug | 0.00                          |         | -                                       |
| Other (large)   | 26.0       | 0.0   | 26.0  | <u> </u>                       |                               |         |   |
| Other (large) Waste Stream Description Other (small)                                  | 0.1        | 0.0   | 0.1   |                                |                               |         |   |
| Containers waiting assignment to waste streams RH Can (2 gal)                         | 0.0        | 0.0   | 0.0   |                                |                               |         |   |
| MahangkameWtaStambaents   | 5.7        | 0.0   | 5.7   |                                |                               |         |   |

Former WS IDs: LAM001, LAM005, LAM009, LAT004, LAT005, LAT006, LAT009, and LATR07; also containers not previously associated with an identified BIR WS

0.00

Packaging Material, Steel Plug

## Waste Stream ID: LA-TA-00-03

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Containers waiting assignr                 | ment to wa | aste strear | ns    |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|-------------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID TA-00-03 Handling CH Final Was                          | ste Form   | V/A         |       | Waste Matrix Code S9000      | Activi                        | ity Concentrati | ons as of CY 1979                   |
| Final Waste Form Descriptors                                     |            |             |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |            |             |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |             |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 4.66E-03                            |
| ContainerType  | Stored     | Proj.       | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Cm-244          | 2.75E-01                            |
| 55 Gallon Drum   | 7.1        | 0.0         |       | Other Metal/Alloys           | 0.00                          | Pu-238          | 2.55E-01                            |
| 85 Gal   | 0.6        | 0.0         | 0.6   | Other Inorganic Materials    | 0.00                          | Pu-239          | 5.61E-02                            |
|  |            |             |       | Cellulosics                  | 0.00                          | Pu-240          | 1.21E-02                            |
| As-Generated Total   | 7.7        | 0.0         | 7.7   | Rubber                       | 0.00                          | Pu-241          | 3.17E-01                            |
| Final Form Volumes   |            |             |       | Plastics                     | 0.00                          | Pu-242          | 2.78E-06                            |
| ContainerType  | Stored     | Proj.       | Total | Solidified, Inorganic Matrix | 0.00                          | '-              |                                     |
| 55 Gallon Drum   | 7.1        | 0.0         | 7.1   | Cement (Solidified)          | 0.00                          |                 |                                     |
| 85 Gal   | 0.6        | 0.0         | 0.6   | Vitrified                    | 0.00                          |                 |                                     |
|  | I          |             |       | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
| Final Form Total   | 7.7        | 0.0         | 7.7   | Soils                        | 0.00                          |                 |                                     |
|  |            |             |       | Packaging Material, Steel    | 0.00                          |                 |                                     |
|  |            |             |       | Packaging Material, Plastic  | 0.00                          |                 |                                     |
|  |            |             |       | Packaging Material, Lead     | 0.00                          |                 |                                     |

**Waste Stream Description** 

Containers waiting assignment to waste streams

**Management Comments** 

Former WS ID: LAM009

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Containers waiting assign                  | ment to wa | aste strear | ns    |                                |                               | Invent           | ory Date 9/30/2002                  |
|--|------------|-------------|-------|--------------------------------|-------------------------------|------------------|-------------------------------------|
| ocal ID TA-00-04 Handling CH Final Wa                            | ste Form   | N/A         |       | Waste Matrix Code S9000        | Activ                         | rity Concentrati | ons as of CY 1974                   |
| Final Waste Form Descriptors                                     |            |             |       | Waste Material Parameters      |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |            |             |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |             |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241           | 1.48E-06                            |
| ContainerType  | Stored     | Proj.       | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-238           | 1.01E-02                            |
| Crate  | 36.1       | 0.0         | 36.1  | Other Metal/Alloys             | 0.00                          | Pu-239           | 1.88E-03                            |
| FRP Box  | 154.0      | 0.0         | 154.0 | Other Inorganic Materials      | 0.00                          | Pu-240           | 4.12E-04                            |
| Other (large)  | 22.9       | 0.0         | 22.9  | Cellulosics                    | 0.00                          | Pu-241           | 8.64E-03                            |
|  |            |             |       | Rubber                         | 0.00                          | Pu-242           | 6.31E-08                            |
| As-Generated Total   | 213.0      | 0.0         | 213.0 | Plastics                       | 0.00                          | U-235            | 5.79E-11                            |
| Final Form Volumes   |            |             |       | Solidified, Inorganic Matrix   | 0.00                          |                  |                                     |
| ContainerType  | Stored     | Proj.       | Total | Cement (Solidified)            | 0.00                          |                  |                                     |
| Crate  | 36.1       | 0.0         | 36.1  | Vitrified                      | 0.00                          |                  |                                     |
| FRP Box  | 154.0      | 0.0         | 154.0 | Solidified, Organic Matrix     | 0.00                          |                  |                                     |
| Other (large)  | 22.9       |             | 22.9  | Soils                          | 0.00                          |                  |                                     |
|  |            |             |       | Packaging Material, Steel      | 0.00                          |                  |                                     |
| Final Form Total   | 213.0      | 0.0         | 213.0 | Packaging Material, Plastic    | 0.00                          |                  |                                     |
|  |            |             |       | Packaging Material, Lead       | 0.00                          |                  |                                     |
|  |            |             |       | Packaging Material, Steel Plug | 0.00                          |                  |                                     |

## **Waste Stream Description**

Containers waiting assignment to waste streams

## **Management Comments**

Former WS IDs: LAM001, LAM005, LAM009, LAT005, and LAT009.

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Containers waiting assignm                 |         |       | ns    | 1 - 1                          |                               |                  | ory Date 9/30/2002                  |
|--|---------|-------|-------|--------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID TA-00-05 Handling CH Final Was                          | te Form | I/A   |       | Waste Matrix Code S9000        | Acti                          | vity Concentrati | ons as of CY 1974                   |
| Final Waste Form Descriptors                                     |         |       |       | Waste Material Parameters      |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |         |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |       |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241           | 3.18E-03                            |
| ContainerType  | Stored  | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-238           | 2.72E-03                            |
| 30 gal drum  | 5.5     | 0.0   | 5.5   | Other Metal/Alloys             | 0.00                          | Pu-239           | 7.35E-04                            |
| 55 Gallon Drum   | 21.6    | 0.0   | 21.6  | Other Inorganic Materials      | 0.00                          | Pu-240           | 1.57E-04                            |
| Other (large)  | 390.6   | 0.0   | 390.6 | Cellulosics                    | 0.00                          | Pu-241           | 2.41E-03                            |
|  |         |       |       | Rubber                         | 0.00                          | Pu-242           | 9.87E-09                            |
| As-Generated Total   | 417.8   | 0.0   | 417.8 | Plastics                       | 0.00                          | U-234            | 1.85E-08                            |
| Final Form Volumes   |         |       |       | Solidified, Inorganic Matrix   | 0.00                          | U-235            | 9.11E-10                            |
| ContainerType  | Stored  | Proj. | Total | Cement (Solidified)            | 0.00                          | U-238            | 1.73E-08                            |
| 30 gal drum  | 5.5     | 0.0   | 5.5   | Vitrified                      | 0.00                          | ·                |                                     |
| 55 Gallon Drum   | 21.6    | 0.0   | 21.6  | Solidified, Organic Matrix     | 0.00                          |                  |                                     |
| Other (large)  | 390.6   | 0.0   | 390.6 | Soils                          | 0.00                          |                  |                                     |
|  | I       |       |       | Packaging Material, Steel      | 0.00                          |                  |                                     |
| Final Form Total   | 417.8   | 0.0   | 417.8 | Packaging Material, Plastic    | 0.00                          |                  |                                     |
|  |         |       |       | Packaging Material, Lead       | 0.00                          |                  |                                     |
|  |         |       |       | Packaging Material, Steel Plug | 0.00                          |                  |                                     |

## **Waste Stream Description**

Containers waiting assignment to waste streams

## **Management Comments**

Former WS IDs: LAM001, LAM002, LAM003, LAM004, LAM006, LAT004, LAT005, and LAT006.

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IAOIL  | OCCLI              | TE IITTE            | 1110   | KI WASILI KOIILL                                       |  |  |   |
|--------|--------------------|---------------------|--|--|--|--|---|
|        |                    | ms                  |  | Waste Matrix Code S9000                                | Act  |  | ory Date 9/30/2002<br>ons as of CY 1998   |
|        |                    |                     |  | Waste Material Parameters                              |  | Final Form   | Radionuclides   |
|        |                    |                     |  | Material Parameter                                     | Average<br>Density<br>(kg/m3)  | Isotope  | Typical<br>Concentration<br>(Ci/m3)   |
|        |                    |                     |  | Iron-Base Metal/Alloys                                 | 0.00   | Am-241   | 1.61E-03  |
| Stored | Proi.              | Total               |  | Aluminum-Base Metal/Alloys                             | 0.00   | Pu-238   | 2.40E+00  |
| 33.3   | •                  | 33.3                |  | Other Metal/Alloys                                     | 0.00   | Pu-239   | 3.28E-03  |
|        | ment to waste Form | ment to waste strea | ment to waste streams ste Form N/A  Stored Proj. Total | ment to waste streams ste Form N/A  Stored Proj. Total | Waste Matrix Code S9000  Waste Material Parameters  Material Parameter  Iron-Base Metal/Alloys Aluminum-Base Metal/Alloys Other Metal/Alloys | Waste Matrix Code S9000 Act  Waste Material Parameters  Material Parameter (kg/m3)  Iron-Base Metal/Alloys 0.00  Aluminum-Base Metal/Alloys 0.00  Other Material Parameter 0.000 | Material Parameter   Stored   Proj.   Total   Total |

11.4

44.7

0.0

0.0

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 33.3   | 0.0   | 33.3  |
| Standard Waste Box | 11.4   | 0.0   | 11.4  |

As-Generated Total

**Final Form Total** 44.7 0.0 44.7

11.4

44.7

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | (Ci/m3)  |
|---------|----------|
| Am-241  | 1.61E-03 |
| Pu-238  | 2.40E+00 |
| Pu-239  | 3.28E-03 |
| Pu-240  | 1.52E-03 |
| Pu-241  | 7.86E-02 |
| Pu-242  | 8.08E-07 |
| U-235   | 2.84E-07 |
| U-238   | 1.10E-08 |

## **Waste Stream Description**

Standard Waste Box

Containers waiting assignment to waste streams

## **Management Comments**

Former WS IDs: LAM004, LAM005, LAT004, LAT005, also contains containers not previously associated with an identified BIR WS

#### Appendix I LA-TA-00-07 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                  |             |          |                               |             |   |                           |         | _                 |                       |
|----------|------------------|-------------|----------|-------------------------------|-------------|---|---------------------------|---------|-------------------|-----------------------|
| HQ ID    | N/A              | Stream Name | Containe | ers waiting assignment to was | ste streams |   |                           |         | Inventory         | <b>Date</b> 9/30/2002 |
| Local ID | TA-00-07         | Handling    | CH       | Final Waste Form N/           | 'A          |   | Waste Matrix Code S9000   | Activi  | ty Concentrations | as of CY 1998         |
| Final Wa | ste Form Descrip | tors        |          | _                             |             | , | Waste Material Parameters |         | Final Form Ra     | dionuclides           |
| Categ    | ory: Defense TF  | RU Waste So | urce:    | I/A                           |             |   |                           | Average |                   | Typical               |

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 14.1   | 0.0   | 14.1  |
| Other (large)        | 3.7    | 0.0   | 3.7   |
| As-Generated Tota    | 17.8   | 0.0   | 17.8  |

| Stored | Proj. | Total    |
|--------|-------|----------|
| 14.1   | 0.0   | 14.1     |
| 3.7    | 0.0   | 3.7      |
|        | 14.1  | 14.1 0.0 |

Final Form Total 0.0 17.8 17.8

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.18E-02                            |
| Cs-137  | 6.78E-05                            |
| Pu-238  | 2.88E-01                            |
| Pu-239  | 3.57E-02                            |
| Pu-240  | 4.69E-03                            |
| Pu-241  | 8.45E-02                            |
| Pu-242  | 4.62E-07                            |
| U-234   | 6.58E-05                            |
| U-235   | 1.63E-06                            |
| U-238   | 6.94E-08                            |

## **Waste Stream Description**

Containers waiting assignment to waste streams

## **Management Comments**

Former WS IDs: LAM004, LAM005, LAT004, LAT005, LAT009, also contains containers not previously associated with an identified BIR WS

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID N/A Stream Name Plutonium contaminated                     | soil (non-m | ixed) |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|-------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID TA-03-29 Handling CH Final Wa                            | ste Form    | Soils |       | Waste Matrix Code S4100        | Activ                         | ity Concentrati | ons as of CY 1981                   |
| Final Waste Form Descriptors                                     |             |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |       |       | Iron-Base Metal/Alloys         | 1.15                          | Am-241          | 6.87E-01                            |
| ContainerType  | Stored      | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.45                          | Pu-238          | 2.73E+04                            |
| 55 Gallon Drum   | 0.4         | 0.0   | 0.4   | Other Metal/Alloys             | 0.50                          | Pu-239          | 1.12E+01                            |
|  |             |       |       | Other Inorganic Materials      | 0.18                          | Pu-240          | 2.57E+00                            |
| As-Generated Total   | 0.4         | 0.0   | 0.4   | Cellulosics                    | 2.43                          | Pu-241          | 3.86E+01                            |
| Final Form Volumes   |             |       |       | Rubber                         | 1.27                          | Pu-242          | 1.05E-03                            |
| ContainerType  | Stored      | Proj. | Total | Plastics                       | 3.56                          |                 |                                     |
| 55 Gallon Drum   | 0.4         | 0.0   | 0.4   | Solidified, Inorganic Matrix   | 14.47                         |                 |                                     |
|  | l!          |       |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total   | 0.4         | 0.0   | 0.4   | Vitrified                      | 0.00                          |                 |                                     |
|  |             |       |       | Solidified, Organic Matrix     | 76.26                         |                 |                                     |
|  |             |       |       | Soils                          | 10.55                         |                 |                                     |
|  |             |       |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |             |       |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |             |       |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |             |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

Soils contaminated with transuranic material.

**Management Comments** 

Former WS IDs: LAT008

| HQ ID N/A Stream Name Oil on vermiculite, corros  Local ID TA-55-52 Handling CH Final W | sive waste n |       |       | P (mixed).  Waste Matrix Code S3200 | Activ                         | Inventory Date 9/30/2002<br>vity Concentrations as of CY N/A |
|---|--------------|-------|-------|-------------------------------------|-------------------------------|--|
| Final Waste Form Descriptors  |              |       |       | Waste Material Parameters           |                               | No Final Form  |
| Category: Unknown Source: N/A   |              |       |       | Material Parameter                  | Average<br>Density<br>(kg/m3) | Radionuclides Provided                                       |
| Waste Volume Detail (m3)  |              |       |       | Iron-Base Metal/Alloys              | 0.18                          |  |
| As-Generated Volumes  |              |       |       | Aluminum-Base Metal/Alloys          | 0.18                          |  |
| ContainerType   | Stored       | Proj. | Total | Other Metal/Alloys                  | 0.18                          |  |
| 55 Gallon Drum  | 0.6          | 0.0   | 0.6   | Other Inorganic Materials           | 0.18                          |  |
| As Compressed Tata  | 0.6          | 0.0   | 0.6   | Cellulosics                         | 0.18                          |  |
| As-Generated Total  | 0.6          | 0.0   | 0.6   | Rubber                              | 0.18                          |  |
| Final Form Volumes  |              |       |       | Plastics                            | 0.18                          |  |
| ContainerType   | Stored       | Proj. | Total | Solidified, Inorganic Matrix        | 165.82                        |  |
| 55 Gallon Drum  | 0.6          | 0.0   | 0.6   | Cement (Solidified)                 | 0.00                          |  |
| Final Form Total  | 0.6          | 0.0   | 0.6   | Vitrified                           | 0.00                          |  |
| Final Form Total  | 0.0          | 0.0   | 0.0   | Solidified, Organic Matrix          | 828.39                        |  |
|   |              |       |       | Soils                               | 110.61                        |  |
|   |              |       |       | Packaging Material, Steel           | 131.00                        |  |
|   |              |       |       | Packaging Material, Plastic         | 37.00                         |  |
|   |              |       |       | Packaging Material, Lead            | 0.00                          |  |
|   |              |       |       | Packaging Material, Steel Plug      | 0.00                          |  |

## **Waste Stream Description**

Oil on vermiculite, corrosive waste not for disposal at WIPP (mixed).

## **Management Comments**

Containes containers not previously associated with an identified BIR WS

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID LB-T001 Stream Name LBL - Waste
Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code N/A Activity Concentrations as of CY N/A

### **Final Waste Form Descriptors**

Category: Non-Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55-gallon     |                    | 0.6    | 1.0   | 1.7   |
|                      | As-Generated Total | 0.6    | 1.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 1.0   | 1.7   |
|                    | Final Form Total | 0.6    | 1.0   | 1.7   |

#### Waste Material Parameters

| waste Material Parameters      | Average<br>Density |
|--------------------------------|--------------------|
| Material Parameter             | (kg/m3)            |
| Iron-Base Metal/Alloys         | 390.00             |
| Aluminum-Base Metal/Alloys     | 0.00               |
| Other Metal/Alloys             | 425.00             |
| Other Inorganic Materials      | 0.00               |
| Cellulosics                    | 150.00             |
| Rubber                         | 0.00               |
| Plastics                       | 450.00             |
| Solidified, Inorganic Matrix   | 0.00               |
| Cement (Solidified)            | 0.00               |
| Vitrified                      | 0.00               |
| Solidified, Organic Matrix     | 150.00             |
| Soils                          | 0.00               |
| Packaging Material, Steel      | 131.00             |
| Packaging Material, Plastic    | 37.00              |
| Packaging Material, Lead       | 0.00               |
| Packaging Material, Steel Plug | 0.00               |

#### Final Form Radionuclides

| i iliai i oriii itaaloriaciiaes |                                     |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                          | 9.32E-02                            |  |  |  |
| Am-243                          | 3.85E-02                            |  |  |  |
| Cm-244                          | 1.19E-01                            |  |  |  |
| Pu-238                          | 2.54E-04                            |  |  |  |
| Pu-240                          | 5.05E-03                            |  |  |  |
| Pu-242                          | 1.01E-02                            |  |  |  |
| U-233                           | 4.81E-03                            |  |  |  |

## **Waste Stream Description**

Transuranic wastes with isotopes only

#### **Management Comments**

| HQ ID    | PA-B015 | Stream Name | Transura | anic and Technetium Wastes - Liquid |                      |             | Inventory Date         | 9/30/2 | .002 |
|----------|---------|-------------|----------|-------------------------------------|----------------------|-------------|------------------------|--------|------|
| Local ID | PA-B015 | Handling    | СН       | Final Waste Form N/A                | Waste Matrix Code L1 | 190 Activit | y Concentrations as of | CY 1   | V/A  |

#### **Final Waste Form Descriptors**

Source: Other/Multiple Sources Category: Defense TRU Waste

## Waste Volume Detail (m3)

| As-Generated Volumes       |                    |        |       |       |
|----------------------------|--------------------|--------|-------|-------|
| ContainerType              |                    | Stored | Proj. | Total |
| Drum/55-gallon in overpack |                    | 2.4    | 0.0   | 2.4   |
|                            | As-Generated Total | 2.4    | 0.0   | 2.4   |

| Final Form Volumes                   |        |       |       |
|--------------------------------------|--------|-------|-------|
| ContainerType                        | Stored | Proj. | Total |
| SWB used to overpack 55 gallon drums | 2.5    | 0.0   | 2.5   |
|                                      |        |       |       |

Final Form Total 2.5 0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 59.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 212.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Np-237  | 4.56E-02                            |
| Pu-239  | 1.66E-01                            |

## **Waste Stream Description**

Transuranic and Technitium waste class C Liquid

#### **Management Comments**

Original data showed 3 SWBs. Int. volume and # stored changed to more accurately reflect the waste volume of 2.4 m3 as follows: 2.4 m3 / .208 m3 / drum = 11.538 drums, rounded to 12 drums. Tb 3/29/03.

| HQ ID PA-W014 Stream Name Transuranic Waste Liquid        | l        |       |       |                              |                               | Inventory Date 9/30/2002       |
|---|----------|-------|-------|------------------------------|-------------------------------|--------------------------------|
| Local ID PA-W014 Handling CH Final Wa                     | ste Form | N/A   |       | Waste Matrix Code L1220      | Activit                       | ty Concentrations as of CY N/A |
| Final Waste Form Descriptors                              |          |       |       | Waste Material Parameters    |                               | No Final Form                  |
| Category: Defense TRU Waste Source: Other/Multiple Source | urces    |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided         |
| Waste Volume Detail (m3)                                  |          |       |       | Iron-Base Metal/Alloys       | 0.00                          |                                |
| As-Generated Volumes                                      |          |       |       | Aluminum-Base Metal/Alloys   | 0.00                          |                                |
| ContainerType   | Stored   | Proj. | Total | Other Metal/Alloys           | 0.00                          |                                |
| Drum/55-gallon in overpack                                | 0.3      | 0.0   | 0.3   | Other Inorganic Materials    | 0.00                          |                                |
| As-Generated Total  | 0.3      | 0.0   | 0.3   | Cellulosics                  | 0.00                          |                                |
| As-Generated Total  | 0.3      | 0.0   | 0.3   | Rubber                       | 0.00                          |                                |
| Final Form Volumes  |          |       |       | Plastics                     | 0.00                          |                                |
| ContainerType   | Stored   | Proj. | Total | Solidified, Inorganic Matrix | 0.00                          |                                |
| SWB used to overpack 55 gallon drums                      | 0.4      | 0.0   | 0.4   | Cement (Solidified)          | 0.00                          |                                |
| Final Form Total  | 0.4      | 0.0   | 0.4   | Vitrified                    | 0.00                          |                                |
| Filiai Foriii Totai                                       | 0.4      | 0.0   | 0.4   | Solidified, Organic Matrix   | 0.00                          |                                |
|   |          |       |       | Soils                        | 0.00                          |                                |
|   |          |       |       | Packaging Material, Steel    | 0.00                          |                                |
|   |          |       |       | Packaging Material, Plastic  | 0.00                          |                                |
|   |          |       |       | Packaging Material, Lead     | 0.00                          |                                |

0.00

Packaging Material, Steel Plug

## **Waste Stream Description**

Transuranic Waste Basic class C Green Sludge

## **Management Comments**

Original data showed 1 SWB. Int. volume and # stored changed to more accurately reflect the waste volume of .3 m3 as follows: .3 m3 / .208 m3 / drum = 1.442 drums, rounded to 2 drums. Tb 3/29/03.

| HQ ID RF-W026 Stream Name Used Absorbents/TRM                 |             |              |          |                                |                               | Inventory Date 9/30/2002         |
|---|-------------|--------------|----------|--------------------------------|-------------------------------|----------------------------------|
| Local ID IDC 375 Handling CH Final Wa                         | ste Form    | Solidified C | Organics | Waste Matrix Code S3113        | Activ                         | ity Concentrations as of CY 1990 |
| Final Waste Form Descriptors                                  |             |              |          | Waste Material Parameters      |                               | No Final Form                    |
| Category: Defense TRU Waste  Source: Facility/Equipment Waste | t Operatior | and Main     | ntenance | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided           |
| Waste Volume Detail (m3)                                      |             |              |          | Iron-Base Metal/Alloys         | 0.00                          |                                  |
| As-Generated Volumes  |             |              |          | Aluminum-Base Metal/Alloys     | 0.00                          |                                  |
| ContainerType   | Stored      | Proj.        | Total    | Other Metal/Alloys             | 0.00                          |                                  |
| TBD   | 0.0         | 0.0          | 0.0      | Other Inorganic Materials      | 0.00                          |                                  |
| As Conserted Total  | 0.0         | 0.0          | 0.0      | Cellulosics                    | 0.00                          |                                  |
| As-Generated Total  | 0.0         | 0.0          | 0.0      | Rubber                         | 0.00                          |                                  |
| Final Form Volumes  |             |              |          | Plastics                       | 0.00                          |                                  |
| ContainerType   | Stored      | Proj.        | Total    | Solidified, Inorganic Matrix   | 0.00                          |                                  |
| TBD   | 0.0         | 0.0          | 0.0      | Cement (Solidified)            | 0.00                          |                                  |
| Final Form Total  | 0.0         | 0.0          | 0.0      | Vitrified                      | 0.00                          |                                  |
| Filial Folili Total   | 0.0         | 0.0          | 0.0      | Solidified, Organic Matrix     | 0.00                          |                                  |
|   |             |              |          | Soils                          | 0.00                          |                                  |
|   |             |              |          | Packaging Material, Steel      | 0.00                          |                                  |
|   |             |              |          | Packaging Material, Plastic    | 0.00                          |                                  |
|   |             |              |          | Packaging Material, Lead       | 0.00                          |                                  |
|   |             |              |          | Packaging Material, Steel Plug | 0.00                          |                                  |

## **Waste Stream Description**

This waste form is vermiculte with absorbed organic liquid.

## **Management Comments**

New Waste Stream being added to TWBIR. This waste is packaged in a 55 gallon carbon steel drum.

| HQ ID RF-W026 Stream         | n Name Used Absorbents/TRM      |             |              |          |                                |                               | Inventory Date 9/30/2002         |
|------------------------------|---------------------------------|-------------|--------------|----------|--------------------------------|-------------------------------|----------------------------------|
| Local ID IDC 375 H           | andling CH Final Wa             | ste Form    | Solidified C | Organics | Waste Matrix Code S3114        | Activ                         | ity Concentrations as of CY 1990 |
| Final Waste Form Descriptors |                                 |             |              |          | Waste Material Parameters      |                               | No Final Form                    |
| Category: Defense TRU Waste  | Source: Facility/Equipmen Waste | t Operatior | and Main     | tenance  | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided           |
| Waste Volume Detail (m3)     |                                 |             |              |          | Iron-Base Metal/Alloys         | 0.00                          |                                  |
| As-Generated Volumes         |                                 |             |              |          | Aluminum-Base Metal/Alloys     | 0.00                          |                                  |
| ContainerType                |                                 | Stored      | Proj.        | Total    | Other Metal/Alloys             | 0.00                          |                                  |
| TBD                          |                                 | 0.0         | 0.0          | 0.0      | Other Inorganic Materials      | 0.00                          |                                  |
|                              | As Compressed Total             | 0.0         | 0.0          | 0.0      | Cellulosics                    | 0.00                          |                                  |
|                              | As-Generated Total              | 0.0         | 0.0          | 0.0      | Rubber                         | 0.00                          |                                  |
| Final Form Volumes           |                                 |             |              |          | Plastics                       | 0.00                          |                                  |
| ContainerType                |                                 | Stored      | Proj.        | Total    | Solidified, Inorganic Matrix   | 0.00                          |                                  |
| TBD                          |                                 | 0.0         | 0.0          | 0.0      | Cement (Solidified)            | 0.00                          |                                  |
|                              | Final Form Total                | 0.0         | 0.0          | 0.0      | Vitrified                      | 0.00                          |                                  |
|                              | Fillal Form Total               | 0.0         | 0.0          | 0.0      | Solidified, Organic Matrix     | 0.00                          |                                  |
|                              |                                 |             |              |          | Soils                          | 0.00                          |                                  |
|                              |                                 |             |              |          | Packaging Material, Steel      | 0.00                          |                                  |
|                              |                                 |             |              |          | Packaging Material, Plastic    | 0.00                          |                                  |
|                              |                                 |             |              |          | Packaging Material, Lead       | 0.00                          |                                  |
|                              |                                 |             |              |          | Packaging Material, Steel Plug | 0.00                          |                                  |

## **Waste Stream Description**

This waste form is vermiculte with absorbed organic liquid.

## **Management Comments**

New Waste Stream being added to TWBIR. This waste is packaged in a 55 gallon carbon steel drum.

| HQ ID RF-MT0503 Stream Name N/A         |               |       |       |                                |                               | Inventory Date 9/30/2002        |
|---|---------------|-------|-------|--------------------------------|-------------------------------|---------------------------------|
| Local ID N/A Handling CH Fin            | al Waste Form | V/A   |       | Waste Matrix Code TBD          | Activ                         | ty Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |               |       |       | Waste Material Parameters      |                               | No Final Form                   |
| Category: Defense TRU Waste Source: N/A |               |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste Volume Detail (m3)                |               |       |       | Iron-Base Metal/Alloys         | 0.00                          |                                 |
| As-Generated Volumes                    |               |       |       | Aluminum-Base Metal/Alloys     | 0.00                          |                                 |
| ContainerType                           | Stored        | Proj. | Total | Other Metal/Alloys             | 0.00                          |                                 |
| Bottle / 2-Liter                        | 0.0           | 0.0   | 0.0   | Other Inorganic Materials      | 0.00                          |                                 |
| Drum / 55 gallon                        | 1.5           | 0.0   | 1.5   | Cellulosics                    | 0.00                          |                                 |
| A. Camanata di                          | T-1-1 1 5     | 0.0   | 4.5   | Rubber                         | 0.00                          |                                 |
| As-Generated                            | Total 1.5     | 0.0   | 1.5   | Plastics                       | 0.00                          |                                 |
| Final Form Volumes                      |               |       |       | Solidified, Inorganic Matrix   | 0.00                          |                                 |
| ContainerType                           | Stored        | Proj. | Total | Cement (Solidified)            | 0.00                          |                                 |
| 55 Gallon Drum                          | 1.7           | 0.0   | 1.7   | Vitrified                      | 0.00                          |                                 |
| Final Form                              | Total 1.7     | 0.0   | 1.7   | Solidified, Organic Matrix     | 0.00                          |                                 |
| Final Form                              | Total 1.7     | 0.0   | 1.7   | Soils                          | 0.00                          |                                 |
|   |               |       |       | Packaging Material, Steel      | 0.00                          |                                 |
|   |               |       |       | Packaging Material, Plastic    | 0.00                          |                                 |
|   |               |       |       | Packaging Material, Lead       | 0.00                          |                                 |
|   |               |       |       | Packaging Material, Steel Plug | 0.00                          |                                 |

**Waste Stream Description** 

N/A

## **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX, or RF-MTXXXX), but has been recharacterized as non-mixed waste.

| HQ ID RF-MT0505 Stream Name N/A         |          |       |       |                              |                               | Inventory Date 9/30/2002          |
|---|----------|-------|-------|------------------------------|-------------------------------|-----------------------------------|
| Local ID N/A Handling CH Final Wa       | ste Form | N/A   |       | Waste Matrix Code TBD        | Acti                          | vity Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |          |       |       | Waste Material Parameters    |                               | No Final Form                     |
| Category: Defense TRU Waste Source: N/A |          |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                |          |       |       | Iron-Base Metal/Alloys       | 0.00                          |                                   |
| As-Generated Volumes                    |          |       |       | Aluminum-Base Metal/Alloys   | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Other Metal/Alloys           | 0.00                          |                                   |
| Drum / 55 gallon                        | 0.2      | 0.0   | 0.2   | Other Inorganic Materials    | 0.00                          |                                   |
| As-Generated Total                      | 0.2      | 0.0   | 0.2   | Cellulosics                  | 0.00                          |                                   |
| As-Generated Total                      | 0.2      | 0.0   | 0.2   | Rubber                       | 0.00                          |                                   |
| Final Form Volumes                      |          |       |       | Plastics                     | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Solidified, Inorganic Matrix | 0.00                          |                                   |
| 55 Gallon Drum                          | 0.2      | 0.0   | 0.2   | Cement (Solidified)          | 0.00                          |                                   |
| Final Form Total                        | 0.2      | 0.0   | 0.2   | Vitrified                    | 0.00                          |                                   |
| Final Form Total                        | 0.2      | 0.0   | 0.2   | Solidified, Organic Matrix   | 0.00                          |                                   |
|   |          |       |       | Soils                        | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel    | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Plastic  | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Lead     | 0.00                          |                                   |

0.00

Packaging Material, Steel Plug

**Waste Stream Description** 

N/A

**Management Comments** 

| HQ ID RF-MT0529 Stream Name N/A         |          |       |       |                                |                               | Inventory Date 9/30/2002          |
|---|----------|-------|-------|--------------------------------|-------------------------------|-----------------------------------|
| Local ID N/A Handling CH Final Wa       | ste Form | N/A   |       | Waste Matrix Code TBD          | Activ                         | vity Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |          |       |       | Waste Material Parameters      |                               | No Final Form                     |
| Category: Defense TRU Waste Source: N/A |          |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                |          |       |       | Iron-Base Metal/Alloys         | 0.00                          |                                   |
| As-Generated Volumes                    |          |       |       | Aluminum-Base Metal/Alloys     | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Other Metal/Alloys             | 0.00                          |                                   |
| Drum / 55 gallon                        | 0.2      | 0.0   | 0.2   | Other Inorganic Materials      | 0.00                          |                                   |
| As-Generated Total                      | 0.2      | 0.0   | 0.2   | Cellulosics                    | 0.00                          |                                   |
| As-Generated Total                      | 0.2      | 0.0   | 0.2   | Rubber                         | 0.00                          |                                   |
| Final Form Volumes                      |          |       |       | Plastics                       | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Solidified, Inorganic Matrix   | 0.00                          |                                   |
| 55 Gallon Drum                          | 0.2      | 0.0   | 0.2   | Cement (Solidified)            | 0.00                          |                                   |
| Final Form Total                        | 0.2      | 0.0   | 0.2   | Vitrified                      | 0.00                          |                                   |
| Fillal Fortil Total                     | 0.2      | 0.0   | 0.2   | Solidified, Organic Matrix     | 0.00                          |                                   |
|   |          |       |       | Soils                          | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel      | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Plastic    | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Lead       | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel Plug | 0.00                          |                                   |

**Waste Stream Description** 

N/A

**Management Comments** 

| IQ ID RF-MT0533 Stream Name N/A         |          |       |       |                              |                               | Inventory Date 9/30/2002          |
|---|----------|-------|-------|------------------------------|-------------------------------|-----------------------------------|
|   | ste Form | N/A   |       | Waste Matrix Code TBD        | Activ                         | rity Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |          |       |       | Waste Material Parameters    |                               | No Final Form                     |
| Category: Defense TRU Waste Source: N/A |          |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Naste Volume Detail (m3)                |          |       |       | Iron-Base Metal/Alloys       | 0.00                          |                                   |
| As-Generated Volumes                    |          |       |       | Aluminum-Base Metal/Alloys   | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Other Metal/Alloys           | 0.00                          |                                   |
| 8804 Can                                | 0.1      | 0.0   | 0.1   | Other Inorganic Materials    | 0.00                          |                                   |
| As Conserted Total                      | 0.1      | 0.0   | 0.1   | Cellulosics                  | 0.00                          |                                   |
| As-Generated Total                      | 0.1      | 0.0   | 0.1   | Rubber                       | 0.00                          |                                   |
| Final Form Volumes                      |          |       |       | Plastics                     | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Solidified, Inorganic Matrix | 0.00                          |                                   |
| 55 Gallon Drum                          | 3.1      | 0.0   | 3.1   | Cement (Solidified)          | 0.00                          |                                   |
| Final Form Total                        | 3.1      | 0.0   | 3.1   | Vitrified                    | 0.00                          |                                   |
| Filial Folili Total                     | 3.1      | 0.0   | 3.1   | Solidified, Organic Matrix   | 0.00                          |                                   |
|   |          |       |       | Soils                        | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel    | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Plastic  | 0.00                          |                                   |
|   |          |       |       | Packaging Material Lead      | 0.00                          |                                   |

0.00

Packaging Material, Steel Plug

**Waste Stream Description** 

N/A

**Management Comments** 

| HQ ID RF-MT0535 Stream Name N/A         |          |       |       |                              |                               | Inventory Date 9/30/2002          |
|---|----------|-------|-------|------------------------------|-------------------------------|-----------------------------------|
|   | ste Form | N/A   |       | Waste Matrix Code TBD        | Activ                         | rity Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |          |       |       | Waste Material Parameters    |                               | No Final Form                     |
| Category: Defense TRU Waste Source: N/A |          |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                |          |       |       | Iron-Base Metal/Alloys       | 0.00                          |                                   |
| As-Generated Volumes                    |          |       |       | Aluminum-Base Metal/Alloys   | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Other Metal/Alloys           | 0.00                          |                                   |
| 8804 Can                                | 0.0      | 0.0   | 0.0   | Other Inorganic Materials    | 0.00                          |                                   |
| As-Generated Total                      | 0.0      | 0.0   | 0.0   | Cellulosics                  | 0.00                          |                                   |
| As-Generated Total                      | 0.0      | 0.0   | 0.0   | Rubber                       | 0.00                          |                                   |
| Final Form Volumes                      |          |       |       | Plastics                     | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Solidified, Inorganic Matrix | 0.00                          |                                   |
| 55 Gallon POCs                          | 0.6      | 0.0   | 0.6   | Cement (Solidified)          | 0.00                          |                                   |
| Final Form Total                        | 0.6      | 0.0   | 0.6   | Vitrified                    | 0.00                          |                                   |
| Filiai Foriii Totai                     | 0.0      | 0.0   | 0.0   | Solidified, Organic Matrix   | 0.00                          |                                   |
|   |          |       |       | Soils                        | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel    | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Plastic  | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Lead     | 0.00                          |                                   |

Packaging Material, Steel Plug

0.00

**Waste Stream Description** 

N/A

**Management Comments** 

| AQ ID RF-W013 Stream Name Solidified Organics/TRM Local ID N/A Handling CH Final Wa | ste Form  | Solidified I | norganics | Waste Matrix Code S3190      | Activ                         | Inventory Date 9/30/2002<br>ity Concentrations as of CY 1990 |
|---|-----------|--------------|-----------|------------------------------|-------------------------------|--|
| Final Waste Form Descriptors  |           |              |           | Waste Material Parameters    |                               | No Final Form  |
| Category: Defense TRU Waste Source: Decontamination                                 | and Decom | missionin    | g         | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided                                       |
| Waste Volume Detail (m3)  |           |              |           | Iron-Base Metal/Alloys       | 0.00                          |  |
| As-Generated Volumes  |           |              |           | Aluminum-Base Metal/Alloys   | 0.00                          |  |
| ContainerType   | Stored    | Proj.        | Total     | Other Metal/Alloys           | 0.00                          |  |
| TBD   | 0.0       | 0.0          | 0.0       | Other Inorganic Materials    | 0.00                          |  |
| A. Comercial Tatal  | 0.0       | 0.0          | 0.0       | Cellulosics                  | 0.00                          |  |
| As-Generated Total  | 0.0       | 0.0          | 0.0       | Rubber                       | 0.00                          |  |
| Final Form Volumes  |           |              |           | Plastics                     | 0.00                          |  |
| ContainerType   | Stored    | Proj.        | Total     | Solidified, Inorganic Matrix | 0.00                          |  |
| TBD   | 0.0       | 0.0          | 0.0       | Cement (Solidified)          | 0.00                          |  |
| Final Form Total  | 0.0       | 0.0          | 0.0       | Vitrified                    | 0.00                          |  |
| Final Form Total  | 0.0       | 0.0          | 0.0       | Solidified, Organic Matrix   | 0.00                          |  |
|   |           |              |           | Soils                        | 0.00                          |  |
|   |           |              |           | Packaging Material, Steel    | 0.00                          |  |
|   |           |              |           | Packaging Material, Plastic  | 0.00                          |  |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

## **Waste Stream Description**

Polymerized aqueous - drum consists of 55-gallon drum quantities of aqueous liquids solidified with polymer such as Nochar A-660.

## **Management Comments**

#### Appendix I Waste Stream ID: RF-MT0829 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Organics/TRM RF-W013 Inventory Date 9/30/2002 N/A СН Final Waste Form Solidified Inorganics Waste Matrix Code S3190 Activity Concentrations as of CY 1990 Local ID Handling

**Final Waste Form Descriptors** 

HQ ID

Category: Defense TRU Waste Source: Decontamination and Decommissioning

## Waste Volume Detail (m3)

| As-Generated Volumes |                   |     |       |       |
|----------------------|-------------------|-----|-------|-------|
| ContainerType        | Stor              | ed  | Proj. | Total |
| TBD                  |                   | 0.0 | 0.0   | 0.0   |
| Δ                    | s-Generated Total | 0.0 | 0.0   | 0.0   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| TBD                | 0.0    | 0.0   | 0.0   |
|                    |        |       |       |

**Final Form Total** 0.0 0.0 0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 0.00                          |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

No Final Form **Radionuclides Provided** 

#### **Waste Stream Description**

Polymerized aqueous - small cans consists of small quantities of aqueous liquids solidified with polymer such as Nochar A-660.

## **Management Comments**

| HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible Local ID N/A Handling CH Final War | :/TRU"<br>ste Form | norganic N | Non-Metal | Waste Matrix Code S5129        | Activ                         | Inventory Date 9/30/2002 vity Concentrations as of CY 1990 |
|--|--------------------|------------|-----------|--------------------------------|-------------------------------|--|
| Final Waste Form Descriptors   |                    |            |           | Waste Material Parameters      |                               | No Final Form  |
| Category: Defense TRU Waste Source: Materials Producti                                 | on                 |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided                                     |
| Waste Volume Detail (m3)   |                    |            |           | Iron-Base Metal/Alloys         | 26.82                         |  |
| As-Generated Volumes   |                    |            |           | Aluminum-Base Metal/Alloys     | 0.00                          |  |
| ContainerType  | Stored             | Proj.      | Total     | Other Metal/Alloys             | 0.00                          |  |
| TBD  | 0.0                | 0.0        | 0.0       | Other Inorganic Materials      | 25.48                         |  |
| As-Generated Total   | 0.0                | 0.0        | 0.0       | Cellulosics                    | 167.07                        |  |
| As-Generated Total   | 0.0                | 0.0        | 0.0       | Rubber                         | 0.00                          |  |
| Final Form Volumes   |                    |            |           | Plastics                       | 0.00                          |  |
| ContainerType  | Stored             | Proj.      | Total     | Solidified, Inorganic Matrix   | 0.00                          |  |
| TBD  | 0.0                | 0.0        | 0.0       | Cement (Solidified)            | 0.00                          |  |
| Final Form Total   | 0.0                | 0.0        | 0.0       | Vitrified                      | 0.00                          |  |
| Tillar Total   | 0.0                | 0.0        | 0.0       | Solidified, Organic Matrix     | 0.00                          |  |
|  |                    |            |           | Soils                          | 0.00                          |  |
|  |                    |            |           | Packaging Material, Steel      | 0.00                          |  |
|  |                    |            |           | Packaging Material, Plastic    | 0.00                          |  |
|  |                    |            |           | Packaging Material, Lead       | 0.00                          |  |
|  |                    |            |           | Packaging Material, Steel Plug | 0.00                          |  |

## **Waste Stream Description**

"Magnesium oxide sand used as an insulating material in the annulus between the magnesium oxide crucible and the reaction vessel wall. Following the reduction of plutonium tetrafluoride to plutonium metal, the sand was screened from the slag and crucible material."

## **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

| HQ ID RF-TT0533 Stream Name N/A         |          |       |       |                                |                               | Inventory Date 9/30/2002          |
|---|----------|-------|-------|--------------------------------|-------------------------------|-----------------------------------|
| Local ID N/A Handling CH Final Wa       | ste Form | N/A   |       | Waste Matrix Code TBD          | Activ                         | rity Concentrations as of CY 1990 |
| Final Waste Form Descriptors            |          |       |       | Waste Material Parameters      |                               | No Final Form                     |
| Category: Defense TRU Waste Source: N/A |          |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                |          |       |       | Iron-Base Metal/Alloys         | 0.00                          |                                   |
| As-Generated Volumes                    |          |       |       | Aluminum-Base Metal/Alloys     | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Other Metal/Alloys             | 0.00                          |                                   |
| 8804 Can                                | 0.0      | 0.0   | 0.0   | Other Inorganic Materials      | 0.00                          |                                   |
| As-Generated Total                      | 0.0      | 0.0   | 0.0   | Cellulosics                    | 0.00                          |                                   |
| As-Generated Total                      | 0.0      | 0.0   | 0.0   | Rubber                         | 0.00                          |                                   |
| Final Form Volumes                      |          |       |       | Plastics                       | 0.00                          |                                   |
| ContainerType                           | Stored   | Proj. | Total | Solidified, Inorganic Matrix   | 0.00                          |                                   |
| 55 Gallon Drum                          | 8.0      | 0.0   | 8.0   | Cement (Solidified)            | 0.00                          |                                   |
| Final Form Total                        | 0.8      | 0.0   | 0.8   | Vitrified                      | 0.00                          |                                   |
| Fillal Follii Total                     | 0.0      | 0.0   | 0.0   | Solidified, Organic Matrix     | 0.00                          |                                   |
|   |          |       |       | Soils                          | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel      | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Plastic    | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Lead       | 0.00                          |                                   |
|   |          |       |       | Packaging Material, Steel Plug | 0.00                          |                                   |

**Waste Stream Description** 

N/A

**Management Comments** 

| HQ ID RF-W114 Stream Name Mg Oxide Crucibles/TRU |          |            |           |                                |                               | Inventory Date 9/30/2002         |
|--|----------|------------|-----------|--------------------------------|-------------------------------|----------------------------------|
| Local ID N/A Handling CH Final Wa                | ste Form | norganic N | Non-Metal | Waste Matrix Code S5123        | Activ                         | ity Concentrations as of CY 1990 |
| Final Waste Form Descriptors                     |          |            |           | Waste Material Parameters      |                               | No Final Form                    |
| Category: Defense TRU Waste Source: N/A          |          |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided           |
| Waste Volume Detail (m3)                         |          |            |           | Iron-Base Metal/Alloys         | 6.70                          |                                  |
| As-Generated Volumes                             |          |            |           | Aluminum-Base Metal/Alloys     | 0.00                          |                                  |
| ContainerType                                    | Stored   | Proj.      | Total     | Other Metal/Alloys             | 90.70                         |                                  |
| TBD  | 0.0      | 0.0        | 0.0       | Other Inorganic Materials      | 113.57                        |                                  |
| As-Generated Total                               | 0.0      | 0.0        | 0.0       | Cellulosics                    | 102.83                        |                                  |
| As-Generated Total                               | 0.0      | 0.0        | 0.0       | Rubber                         | 0.00                          |                                  |
| Final Form Volumes                               |          |            |           | Plastics                       | 36.16                         |                                  |
| ContainerType                                    | Stored   | Proj.      | Total     | Solidified, Inorganic Matrix   | 0.00                          |                                  |
| TBD  | 0.0      | 0.0        | 0.0       | Cement (Solidified)            | 0.00                          |                                  |
| Final Form Total                                 | 0.0      | 0.0        | 0.0       | Vitrified                      | 0.00                          |                                  |
| Tillai Tottai                                    | 0.0      | 0.0        | 0.0       | Solidified, Organic Matrix     | 0.00                          |                                  |
|  |          |            |           | Soils                          | 0.00                          |                                  |
|  |          |            |           | Packaging Material, Steel      | 0.00                          |                                  |
|  |          |            |           | Packaging Material, Plastic    | 0.00                          |                                  |
|  |          |            |           | Packaging Material, Lead       | 0.00                          |                                  |
|  |          |            |           | Packaging Material, Steel Plug | 0.00                          |                                  |

**Waste Stream Description** 

N/A

**Management Comments** 

## Waste Stream ID: RF-TT0971

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RF-W109         Stream Name         Metal/TRU           Local ID         N/A         Handling         CH         Final Wa | ste Form  | Uncategori | ized Metal         | Waste Matrix Code S5110        | Activ                  | Inventory Date 9/30/2002 vity Concentrations as of CY 1990 |
|---|-----------|------------|--------------------|--------------------------------|------------------------|--|
| Final Waste Form Descriptors  |           |            |                    | Waste Material Parameters      |                        | No Final Form  |
| Category: Defense TRU Waste Source: General Building \  | Waste and | ssioning   | Material Parameter | Average<br>Density<br>(kg/m3)  | Radionuclides Provided |  |
| Waste Volume Detail (m3)  |           |            |                    | Iron-Base Metal/Alloys         | 0.00                   |  |
| As-Generated Volumes  |           |            |                    | Aluminum-Base Metal/Alloys     | 0.00                   |  |
| ContainerType   | Stored    | Proj.      | Total              | Other Metal/Alloys             | 0.00                   |  |
| TBD   | 0.0       | 0.0        | 0.0                | Other Inorganic Materials      | 0.00                   |  |
| A. Commercial Total   | 0.0       | 0.0        | 0.0                | Cellulosics                    | 0.00                   |  |
| As-Generated Total  | 0.0       | 0.0        | 0.0                | Rubber                         | 0.00                   |  |
| Final Form Volumes  |           |            |                    | Plastics                       | 0.00                   |  |
| ContainerType   | Stored    | Proj.      | Total              | Solidified, Inorganic Matrix   | 0.00                   |  |
| TBD   | 0.0       | 0.0        | 0.0                | Cement (Solidified)            | 0.00                   |  |
| Final Form Total  | 0.0       | 0.0        | 0.0                | Vitrified                      | 0.00                   |  |
| Final Form Total  | 0.0       | 0.0        | 0.0                | Solidified, Organic Matrix     | 0.00                   |  |
|   |           |            |                    | Soils                          | 0.00                   |  |
|   |           |            |                    | Packaging Material, Steel      | 0.00                   |  |
|   |           |            |                    | Packaging Material, Plastic    | 0.00                   |  |
|   |           |            |                    | Packaging Material, Lead       | 0.00                   |  |
|   |           |            |                    | Packaging Material, Steel Plug | 0.00                   |  |

**Waste Stream Description** 

Non-PCB ballasts and capacitors.

## **Management Comments**

## Waste Stream ID: RF-TT0972

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID RF-W107 Stream Name Soil and Cleanup Debris/  | TRU       |           |             |                                |                               | Inventory Date 9/30/2002        |
|---|-----------|-----------|-------------|--------------------------------|-------------------------------|---------------------------------|
| ocal ID N/A Handling CH Final Wa                    | ste Form  | leterogen | eous Debris | Waste Matrix Code S5440        | Activit                       | ty Concentrations as of CY 1990 |
| Final Waste Form Descriptors                        |           |           |             | Waste Material Parameters      |                               | No Final Form                   |
| Category: Defense TRU Waste Source: Decontamination | and Decom | missionin | g           | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste Volume Detail (m3)                            |           |           |             | Iron-Base Metal/Alloys         | 0.00                          |                                 |
| As-Generated Volumes                                |           |           |             | Aluminum-Base Metal/Alloys     | 0.00                          |                                 |
| ContainerType                                       | Stored    | Proj.     | Total       | Other Metal/Alloys             | 0.00                          |                                 |
| TBD   | 0.0       | 0.0       | 0.0         | Other Inorganic Materials      | 0.00                          |                                 |
| As-Generated Total                                  | 0.0       | 0.0       | 0.0         | Cellulosics                    | 0.00                          |                                 |
| As-Generated Total                                  | 0.0       | 0.0       | 0.0         | Rubber                         | 0.00                          |                                 |
| Final Form Volumes                                  |           |           |             | Plastics                       | 0.00                          |                                 |
| ContainerType                                       | Stored    | Proj.     | Total       | Solidified, Inorganic Matrix   | 0.00                          |                                 |
| TBD   | 0.0       | 0.0       | 0.0         | Cement (Solidified)            | 0.00                          |                                 |
| Final Form Total                                    | 0.0       | 0.0       | 0.0         | Vitrified                      | 0.00                          |                                 |
| Filial Folili Total                                 | 0.0       | 0.0       | 0.0         | Solidified, Organic Matrix     | 0.00                          |                                 |
|   |           |           |             | Soils                          | 0.00                          |                                 |
|   |           |           |             | Packaging Material, Steel      | 0.00                          |                                 |
|   |           |           |             | Packaging Material, Plastic    | 0.00                          |                                 |
|   |           |           |             | Packaging Material, Lead       | 0.00                          |                                 |
|   |           |           |             | Packaging Material, Steel Plug | 0.00                          |                                 |

## **Waste Stream Description**

"Miscellaneous PCB debris consists of such materials as wood, Kimwipes, plastic, PPE, glass bottles, and solidified liquid."

## **Management Comments**

## Waste Stream ID: RF-TT0973

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID RF-W109 Stream Name Metal/TRU                    |                           |            |            |                                |                               | Inventory Date 9/30/2002          |
|--|---------------------------|------------|------------|--------------------------------|-------------------------------|-----------------------------------|
| <u> </u>   | ste Form                  | Jncategori | ized Metal | Waste Matrix Code S5110        | Acti                          | vity Concentrations as of CY 1990 |
| Final Waste Form Descriptors                           |                           |            |            | Waste Material Parameters      |                               | No Final Form                     |
| Category: Defense TRU Waste Source: General Building V | Waste and Decommissioning |            |            | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                               |                           |            |            | Iron-Base Metal/Alloys         | 0.00                          |                                   |
| As-Generated Volumes                                   |                           |            |            | Aluminum-Base Metal/Alloys     | 0.00                          |                                   |
| ContainerType  | Stored                    | Proj.      | Total      | Other Metal/Alloys             | 0.00                          |                                   |
| TBD  | 0.0                       | 0.0        | 0.0        | Other Inorganic Materials      | 0.00                          |                                   |
| As-Generated Total                                     | 0.0                       | 0.0        | 0.0        | Cellulosics                    | 0.00                          |                                   |
| As-Generated Total                                     | 0.0                       | 0.0        | 0.0        | Rubber                         | 0.00                          |                                   |
| Final Form Volumes                                     |                           |            |            | Plastics                       | 0.00                          |                                   |
| ContainerType  | Stored                    | Proj.      | Total      | Solidified, Inorganic Matrix   | 0.00                          |                                   |
| TBD  | 0.0                       | 0.0        | 0.0        | Cement (Solidified)            | 0.00                          |                                   |
| Final Form Total                                       | 0.0                       | 0.0        | 0.0        | Vitrified                      | 0.00                          |                                   |
| Filial Forill Total                                    | 0.0                       | 0.0        | 0.0        | Solidified, Organic Matrix     | 0.00                          |                                   |
|  |                           |            |            | Soils                          | 0.00                          |                                   |
|  |                           |            |            | Packaging Material, Steel      | 0.00                          |                                   |
|  |                           |            |            | Packaging Material, Plastic    | 0.00                          |                                   |
|  |                           |            |            | Packaging Material, Lead       | 0.00                          |                                   |
|  |                           |            |            | Packaging Material, Steel Plug | 0.00                          |                                   |

## **Waste Stream Description**

"This waste stream consists of PCB ballasts and capacitors, leaking and non-leaking."

## **Management Comments**

| HQ ID    | RL-W284          | Stream Name 201C Unk form CH RCRA | A MTRU w/ | met   |       |                              |                               | Invent           | ory Date 9/30/2002                  |
|----------|------------------|-----------------------------------|-----------|-------|-------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID | N/A              | Handling CH Final Wa              | ste Form  | N/A   |       | Waste Matrix Code U9999      | Activi                        | ty Concentration | ons as of CY 2001                   |
| Final Wa | ste Form Descrip | tors                              |           |       |       | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
|          | pory: Defense TR |                                   | ) Waste   |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes  |                                   |           |       |       | Iron-Base Metal/Alloys       | 41.00                         | Am-241           | 2.47E+00                            |
|          | inerType         |                                   | Stored    | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239           | 1.00E-02                            |
|          | llon Drum        |                                   | 0.4       | 0.0   |       | Other Metal/Alloys           | 3.10                          | Pu-240           | 0.00E+00                            |
|          |                  |                                   |           |       |       | Other Inorganic Materials    | 0.00                          | Pu-241           | 8.00E-02                            |
|          |                  | As-Generated Total                | 0.4       | 0.0   | 0.4   | Cellulosics                  | 17.20                         |                  |                                     |
| Final I  | Form Volumes     |                                   |           |       |       | Rubber                       | 4.50                          |                  |                                     |
| Conta    | inerType         |                                   | Stored    | Proj. | Total | Plastics                     | 30.20                         |                  |                                     |
|          | llon Drum        |                                   | 0.4       | 0.0   | 0.4   | Solidified, Inorganic Matrix | 0.00                          |                  |                                     |
|          |                  |                                   | l         |       |       | Cement (Solidified)          | 0.00                          |                  |                                     |
|          |                  | Final Form Total                  | 0.4       | 0.0   | 0.4   | Vitrified                    | 0.00                          |                  |                                     |
|          |                  |                                   |           |       |       | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|          |                  |                                   |           |       |       | Soils                        | 0.00                          |                  |                                     |
|          |                  |                                   |           |       |       | Packaging Material, Steel    | 131.00                        |                  |                                     |
|          |                  |                                   |           |       |       | Packaging Material, Plastic  | 37.00                         |                  |                                     |
|          |                  |                                   |           |       |       | Packaging Material, Lead     | 0.00                          |                  |                                     |

## **Waste Stream Description**

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

## **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.

0.00

Packaging Material, Steel Plug

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W327 Stream Name 2345Z Uncat met debris 0                                   | CH RC/TS    | MTRU w/    | met(Hg)    |                              |                               | Invent  | ory Date 9/30/2002                  |
|--|-------------|------------|------------|------------------------------|-------------------------------|---|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Uncategor  | ized Metal | Waste Matrix Code S5400      | Activ                         | rity Concentrati                                      | ons as of CY N/A                    |
| Final Waste Form Descriptors   |             |            |            | Waste Material Parameters    |                               | Final Form  | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste Waste Volume Detail (m3) | t Operatior | n and Mair | ntenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope   | Typical<br>Concentration<br>(Ci/m3) |
| · ·  |             |            |            | Iron-Base Metal/Alloys       | 198.10                        | Am-241  | 8.00E-02                            |
| As-Generated Volumes   |             |            |            | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239  | 1.86E+00                            |
| ContainerType  | Stored      | Proj.      | Total      | Other Metal/Alloys           | 21.70                         | Pu-240  | 4.20E-01                            |
| Box  | 66.6        | 386.3      | 452.9      | Other Inorganic Materials    | 16.70                         | Pu-241  | 1.25E+01                            |
| As-Generated Total   | 66.6        | 386.3      | 452.9      | Cellulosics                  | 3.30                          |   |                                     |
|  |             |            |            | Rubber                       | 0.00                          | Final Form R  Isotope  Am-241  Pu-239  Pu-240  Pu-241 |                                     |
| Final Form Volumes   |             |            |            | Plastics                     | 15.90                         |   |                                     |
| ContainerType  | Stored      | Proj.      | Total      | Solidified, Inorganic Matrix | 0.00                          |   |                                     |
| Standard Waste Box   | 66.2        | 109.6      | 175.8      | Cement (Solidified)          | 0.00                          |   |                                     |
| Final Form Total   | 66.2        | 109.6      | 175.8      | Vitrified                    | 0.00                          |   |                                     |
|  |             |            |            | Solidified, Organic Matrix   | 0.00                          |   |                                     |
|  |             |            |            | Soils                        | 0.00                          |   |                                     |
|  |             |            |            | Packaging Material, Steel    | 154.00                        |   |                                     |

## **Waste Stream Description**

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

## **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.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

1.20

0.00

0.00

0.00

Packaging Material, Steel Plug

## Waste Stream ID: RL-W328

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W328 Stream Name 2345Z Pb/Cd debris CH F                                     |             |           | ,          |                              |                               |                   | ory Date 9/30/2002                  |
|---|-------------|-----------|------------|------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form    | _ead/Cadn | mium Metal | Waste Matrix Code S5300      | Activ                         | ity Concentration | ons as of CY N/A                    |
| Final Waste Form Descriptors  |             |           |            | Waste Material Parameters    |                               | Final Form        | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Main  | ntenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
|   |             |           |            | Iron-Base Metal/Alloys       | 58.00                         | Am-241            | 8.00E-02                            |
| As-Generated Volumes  |             |           |            | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239            | 1.86E+00                            |
| ContainerType   | Stored      | Proj.     | Total      | Other Metal/Alloys           | 228.20                        | Pu-240            | 4.20E-01                            |
| Box   | 3.2         | 0.0       | 3.2        | Other Inorganic Materials    | 2.80                          | Pu-241            | 1.25E+01                            |
| As-Generated Total  | 3.2         | 0.0       | 3.2        | Cellulosics                  | 0.00                          |                   |                                     |
| <u></u>   | l .         |           |            | Rubber                       | 0.00                          |                   |                                     |
| Final Form Volumes  | г т         |           |            | Plastics                     | 38.90                         |                   |                                     |
| ContainerType   | Stored      | Proj.     | Total      | Solidified, Inorganic Matrix | 0.00                          |                   |                                     |
| Standard Waste Box  | 3.8         | 0.0       | 3.8        | Cement (Solidified)          | 0.00                          |                   |                                     |
| Final Form Total  | 3.8         | 0.0       | 3.8        | Vitrified                    | 0.00                          |                   |                                     |
|   | 1           |           |            | Solidified, Organic Matrix   | 0.00                          |                   |                                     |
|   |             |           |            | Soils                        | 0.00                          |                   |                                     |
|   |             |           |            | Packaging Material, Steel    | 154.00                        |                   |                                     |
|   |             |           |            | Packaging Material, Plastic  | 1.20                          |                   |                                     |
|   |             |           |            | Packaging Material, Lead     | 0.00                          |                   |                                     |

## **Waste Stream Description**

THE STREAM CONTAINS PLASTIC/POLYURETHANE, LEAD, METAL/IRON/GALVANIZED/SHEET, GLASS.

## **Management Comments**

37.00

0.00

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

## Waste Stream ID: RL-W329

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W329 Stream Name 2345Z Solidif org CH RC/                                     | TS MTRU     | w/ ign       |          |                              |                               | Invent           | ory Date 9/30/2002                  |
|--|-------------|--------------|----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Solidified ( | Organics | Waste Matrix Code U9999      | Activ                         | rity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors   |             |              |          | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipment Waste  Waste Volume Detail (m3) | t Operatior | and Mair     | ntenance | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|  |             |              |          | Iron-Base Metal/Alloys       | 0.20                          | Am-241           | 8.00E-02                            |
| As-Generated Volumes   | 1           |              |          | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239           | 1.86E+00                            |
| ContainerType  | Stored      | Proj.        | Total    | Other Metal/Alloys           | 0.00                          | Pu-240           | 4.20E-01                            |
| 55 Gallon Drum   | 2.1         | 8.4          | 10.5     | Other Inorganic Materials    | 0.00                          | Pu-241           | 1.25E+01                            |
| As-Generated Total   | 2.1         | 8.4          | 10.5     | Cellulosics                  | 84.20                         |                  |                                     |
|  |             |              |          | Rubber                       | 4.70                          |                  |                                     |
| Final Form Volumes   |             |              |          | Plastics                     | 71.30                         |                  |                                     |
| ContainerType  | Stored      | Proj.        | Total    | Solidified, Inorganic Matrix | 0.00                          |                  |                                     |
| 55 Gallon Drum   | 2.1         | 8.3          | 10.4     | Cement (Solidified)          | 0.00                          |                  |                                     |
| Final Form Total   | 2.1         | 8.3          | 10.4     | Vitrified                    | 0.00                          |                  |                                     |
|  |             |              |          | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|  |             |              |          | Soils                        | 0.00                          |                  |                                     |
|  |             |              |          | Packaging Material, Steel    | 131.00                        |                  |                                     |

## **Waste Stream Description**

THE STREAM CONTAINS PLASTIC/POLYURETHANE, ORGANICS, CLOTH/RAGS/NYLON, RUBBER, METAL/IRON/GALVANIZED/SHEET.

#### **Management Comments**

| HQ ID    | RL-W332           | Stream Name | 2345Z  | Unk form CH St MTRU                                |                           |                    |         | Invento      | ory Date 9/30/2002    |
|----------|-------------------|-------------|--------|--|---------------------------|--------------------|---------|--------------|-----------------------|
| Local ID | N/A               | Handling    | CH     | Final Waste Form N/A                               | Waste Matrix Code U9999   | Α                  | ctivity | Concentratio | ons as of CY N/A      |
| Final Wa | ste Form Descrip  | otors       |        |  | Waste Material Parameters |                    |         | Final Form I | Radionuclides         |
| Categ    | ory: Defense TF   | RU Waste So | ource: | Facility/Equipment Operation and Maintenance Waste |                           | Average<br>Density |         |              | Typical Concentration |
| Waste Vo | olume Detail (m3) | •           |        |  | Material Parameter        | (kg/m3)            |         | Isotope      | (Ci/m3)               |
|          |                   | ,           |        | 7  | Iron-Base Metal/Alloys    | 0.00               |         | Am-241       | 8.00E-02              |
| AS-Ge    | nerated Volumes   |             |        |  | A1 ' D NA / 1/A11         | 0.00               |         | D 000        | 4.005.00              |

Total

0.2

0.2

1.9

Stored

0.2

0.2

Proj.

0.0

0.0

0.0

|                    | <u> </u> |        |       |       |
|--------------------|----------|--------|-------|-------|
| Final Form Volumes |          |        |       |       |
| ContainerType      |          | Stored | Proj. | Total |
| Standard Waste Box |          | 1.9    | 0.0   | 1.9   |
|                    |          |        |       |       |

As-Generated Total

**Final Form Total** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

Pu-239

Pu-240

Pu-241

1.86E+00

4.20E-01

1.25E+01

## Waste Stream Description

ContainerType

Box

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.

#### **Management Comments**

| HQ ID    | RL-W333 | Stream Name | 2345Z S | Solidif org debris CH TSCA MTRU      |                         |         | Inventory Date          | 9/30/2 | 2002 |
|----------|---------|-------------|---------|--------------------------------------|-------------------------|---------|-------------------------|--------|------|
| Local ID | N/A     | Handling    | CH      | Final Waste Form Solidified Organics | Waste Matrix Code S5400 | Activit | ty Concentrations as of | CY     | N/A  |

### **Final Waste Form Descriptors**

**RL-W333** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |              |     |       |       |
|----------------------|--------------|-----|-------|-------|
| ContainerType        | Store        | d   | Proj. | Total |
| 55 Gallon Drum       |              | 1.3 | 2.5   | 3.8   |
| Δs-Gen               | erated Total | 1.3 | 2.5   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.2    | 2.5   | 3.7   |
|                    | Final Form Total | 1.2    | 2.5   | 3.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 56.30                         |
| Cellulosics                    | 4.80                          |
| Rubber                         | 1.30                          |
| Plastics                       | 61.00                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 29.80                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.00E-02                            |
| Pu-239  | 1.86E+00                            |
| Pu-240  | 4.20E-01                            |
| Pu-241  | 1.25E+01                            |

## **Waste Stream Description**

THE STREAM CONTAINS ABSORBENT/KITY LTR/VERMICULITE, PLASTIC/POLYURETHANE, CONWEB PADS, OILS, CLOTH/RAGS/NYLON, DIRT/SOIL/DIATOMACEOUS EARTH, RUBBER, PCB.

## **Management Comments**

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W334 Stream Name 2345Z Uncat mt debris C                                     | H TSCA M    | TRU        |            |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|------------|------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form    | Jncategori | ized Metal | Waste Matrix Code S5400      | Activ                         | ity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors  |             |            |            | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Main   | ntenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |             |            |            | Iron-Base Metal/Alloys       | 261.90                        | Am-241          | 8.00E-02                            |
| As-Generated Volumes  | T           |            |            | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239          | 1.86E+00                            |
| ContainerType   | Stored      | Proj.      | Total      | Other Metal/Alloys           | 0.00                          | Pu-240          | 4.20E-01                            |
| 55 Gallon Drum  | 0.2         | 0.0        | 0.2        | Other Inorganic Materials    | 0.00                          | Pu-241          | 1.25E+01                            |
| As-Generated Total  | 0.2         | 0.0        | 0.2        | Cellulosics                  | 0.00                          |                 |                                     |
| Final Form Volumes  |             |            |            | Rubber                       | 0.00                          |                 |                                     |
|   |             |            |            | Plastics                     | 76.20                         |                 |                                     |
| ContainerType   | Stored      | Proj.      | Total      | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| 55 Gallon Drum  | 0.2         | 0.0        | 0.2        | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.2         | 0.0        | 0.2        | Vitrified                    | 0.00                          |                 |                                     |
|   |             |            |            | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |             |            |            | Soils                        | 0.00                          |                 |                                     |
|   |             |            |            | Packaging Material, Steel    | 131.00                        |                 |                                     |
|   |             |            |            | Packaging Material, Plastic  | 37.00                         |                 |                                     |

## **Waste Stream Description**

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

#### **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.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W357 Stream Name KAPL Unk form CH/r TRU                             |           |       |       |                                |                               |                | ory Date 9/30/2002                  |
|--|-----------|-------|-------|--------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final Was   | ste Form  | N/A   |       | Waste Matrix Code U9999        | Activi                        | ty Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors   |           |       |       | Waste Material Parameters      |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborat Waste Volume Detail (m3) | ory Waste |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |       |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241         | 0.00E+00                            |
| ContainerType  | Stored    | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239         | 0.00E+00                            |
| 55 Gallon Drum   | 0.2       | 0.0   | 0.2   | Other Metal/Alloys             | 0.00                          | Pu-240         | 0.00E+00                            |
|  |           |       |       | Other Inorganic Materials      | 0.00                          | Pu-241         | 0.00E+00                            |
| As-Generated Total   | 0.2       | 0.0   | 0.2   | Cellulosics                    | 0.00                          | <u> </u>       |                                     |
| Final Form Volumes   |           |       |       | Rubber                         | 0.00                          |                |                                     |
| ContainerType  | Stored    | Proj. | Total | Plastics                       | 0.00                          |                |                                     |
| 55 Gallon Drum   | 0.2       | 0.0   | 0.2   | Solidified, Inorganic Matrix   | 0.00                          |                |                                     |
|  |           |       |       | Cement (Solidified)            | 0.00                          |                |                                     |
| Final Form Total   | 0.2       | 0.0   | 0.2   | Vitrified                      | 0.00                          |                |                                     |
|  |           |       |       | Solidified, Organic Matrix     | 0.00                          |                |                                     |
|  |           |       |       | Soils                          | 0.00                          |                |                                     |
|  |           |       |       | Packaging Material, Steel      | 131.00                        |                |                                     |
|  |           |       |       | Packaging Material, Plastic    | 37.00                         |                |                                     |
|  |           |       |       | Packaging Material, Lead       | 0.00                          |                |                                     |
|  |           |       |       | Packaging Material, Steel Plug | 0.00                          |                |                                     |

**Waste Stream Description** 

THIS STREAM CONTAINS CHEMICALS.

**Management Comments** 

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W366           | Stream Name 202A Unk form CH TRU |             |          |          |                              |                               | Invent         | ory Date 9/30/2002                  |
|----------|-------------------|----------------------------------|-------------|----------|----------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID | N/A               | Handling CH Final Wa             | ste Form    | N/A      |          | Waste Matrix Code U9999      | Activi                        | ty Concentrati | ons as of CY N/A                    |
| Final Wa | aste Form Descrip | otors                            |             |          |          | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
|          | pory: Defense TF  | Waste                            | t Operation | and Mair | ntenance | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
|          |                   |                                  |             |          |          | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 1.00E-02                            |
|          | enerated Volumes  | <u> </u>                         |             |          |          | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239         | 5.70E+00                            |
|          | inerType          |                                  | Stored      | Proj.    | Total    | Other Metal/Alloys           | 0.00                          | Pu-240         | 1.32E+00                            |
| 55 Ga    | llon Drum         |                                  | 1.5         | 0.8      | 2.3      | Other Inorganic Materials    | 0.00                          | Pu-241         | 4.05E+01                            |
|          |                   | As-Generated Total               | 1.5         | 0.8      | 2.3      | Cellulosics                  | 0.00                          |                |                                     |
|          |                   |                                  |             |          |          | Rubber                       | 0.00                          |                |                                     |
| Final    | Form Volumes      |                                  |             |          |          | Plastics                     | 0.00                          |                |                                     |
| Conta    | inerType          |                                  | Stored      | Proj.    | Total    | Solidified, Inorganic Matrix | 0.00                          |                |                                     |
| 55 Ga    | llon Drum         |                                  | 1.5         | 8.0      | 2.3      | Cement (Solidified)          | 0.00                          |                |                                     |
|          |                   | Final Form Total                 | 1.5         | 0.8      | 2.3      | Vitrified                    | 0.00                          |                |                                     |
|          |                   |                                  |             |          | <u> </u> | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|          |                   |                                  |             |          |          | Soils                        | 0.00                          |                |                                     |

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

131.00

37.00

0.00

0.00

**Waste Stream Description** 

THIS STREAM CONTAINS MISCELLANEOUS/UNKNOWN/OTHER.

**Management Comments** 

## Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W382 | Stream Name | 2345Z U | nk form CH TRU   |     |                   |       |          | Inventory Date       | 9/30/2 | 2002 |
|----------|---------|-------------|---------|------------------|-----|-------------------|-------|----------|----------------------|--------|------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form | I/A | Waste Matrix Code | U9999 | Activity | Concentrations as of | CY     | N/A  |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 18.7   | 61.4  | 80.2  |
|                      | As-Generated Total | 18.7   | 61.4  | 80.2  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 18.7   | 61.4  | 80.1  |
|                    | Final Form Total | 18.7   | 61.4  | 80.1  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.00E-02                            |
| Pu-239  | 3.37E+00                            |
| Pu-240  | 7.60E-01                            |
| Pu-241  | 2.11E+01                            |

**Waste Stream Description** 

THIS STREAM CONTAINS MISCELLANEOUS/UNKNOWN/OTHER.

**Management Comments** 

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W391 Stream Name 308 Comb unk form CH T                            | RU         |       |       |                                |                               | Invent         | ory Date 9/30/2002                  |
|---|------------|-------|-------|--------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | I/A   |       | Waste Matrix Code U9999        | Activi                        | ty Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors  |            |       |       | Waste Material Parameters      |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys         | 76.40                         | Am-241         | 2.50E-01                            |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239         | 3.56E+00                            |
| 55 Gallon Drum  | 0.4        | 0.0   | 0.4   | Other Metal/Alloys             | 0.00                          | Pu-240         | 9.00E-01                            |
|   | <u> </u>   |       |       | Other Inorganic Materials      | 0.00                          | Pu-241         | 2.20E+01                            |
| As-Generated Total  | 0.4        | 0.0   | 0.4   | Cellulosics                    | 120.10                        |                |                                     |
| Final Form Volumes  |            |       |       | Rubber                         | 0.00                          |                |                                     |
| ContainerType   | Stored     | Proj. | Total | Plastics                       | 0.00                          |                |                                     |
| 55 Gallon Drum  | 0.4        | 0.0   | 0.4   | Solidified, Inorganic Matrix   | 0.00                          |                |                                     |
|   |            |       |       | Cement (Solidified)            | 0.00                          |                |                                     |
| Final Form Total  | 0.4        | 0.0   | 0.4   | Vitrified                      | 0.00                          |                |                                     |
|   |            |       |       | Solidified, Organic Matrix     | 0.00                          |                |                                     |
|   |            |       |       | Soils                          | 0.00                          |                |                                     |
|   |            |       |       | Packaging Material, Steel      | 131.00                        |                |                                     |
|   |            |       |       | Packaging Material, Plastic    | 37.00                         |                |                                     |
|   |            |       |       | Packaging Material, Lead       | 0.00                          |                |                                     |
|   |            |       |       | Packaging Material, Steel Plug | 0.00                          |                |                                     |

**Waste Stream Description** 

THIS STREAM CONTAINS ORGANICS, METAL/IRON/GALVANIZED/SHEET.

**Management Comments** 

#### RL-W471 Waste Stream ID:

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W471 | Stream Name | 202A MT | RU CH unknown forms S9000 Mixed RCRA w/ org | ı,met,Hg          |       |         | Inventory Date        | 9/30/20      | 002 |
|----------|---------|-------------|---------|---|-------------------|-------|---------|-----------------------|--------------|-----|
| Local ID | N/A     | Handling    | СН      | Final Waste Form N/A                        | Waste Matrix Code | S9000 | Activit | y Concentrations as o | <b>CY</b> 20 | 001 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.9    | 0.0   | 1.9   |
|                      | As-Generated Total | 1.9    | 0.0   | 1.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 1.9    | 0.0   | 1.9   |

| Waste Material Parameters      |                               |  |  |
|--------------------------------|-------------------------------|--|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |  |
| Iron-Base Metal/Alloys         | 0.03                          |  |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |  |
| Other Metal/Alloys             | 167.21                        |  |  |
| Other Inorganic Materials      | 0.00                          |  |  |
| Cellulosics                    | 0.00                          |  |  |
| Rubber                         | 0.00                          |  |  |
| Plastics                       | 0.44                          |  |  |
| Solidified, Inorganic Matrix   | 72.05                         |  |  |
| Cement (Solidified)            | 0.00                          |  |  |
| Vitrified                      | 0.00                          |  |  |
| Solidified, Organic Matrix     | 0.01                          |  |  |
| Soils                          | 255.76                        |  |  |
| Packaging Material, Steel      | 131.00                        |  |  |
| Packaging Material, Plastic    | 37.00                         |  |  |
| Packaging Material, Lead       | 0.00                          |  |  |
| Packaging Material, Steel Plug | 0.00                          |  |  |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 1.02E+00                            |
| 3.00E-03                            |
| 3.60E-02                            |
| 8.23E-03                            |
| 1.04E-01                            |
| 5.04E-07                            |
|                                     |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

### **Management Comments**

# RL-W472 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W472 Stream Name 202A MTRU CH unknown forms \$9000 Mixed RCRA w/ met

Local ID N/A Handling CH Final Waste Form N/A Waste Matrix Code \$9000 Activity Concentrations as of CY 2001

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

# **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 192.00                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 1.23E-01                            |  |  |  |  |
| Pu-238  | 3.72E-02                            |  |  |  |  |
| Pu-239  | 1.41E+00                            |  |  |  |  |
| Pu-240  | 3.15E-01                            |  |  |  |  |
| Pu-241  | 4.44E+00                            |  |  |  |  |
| Pu-242  | 1.90E-05                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

# RL-W473 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W473 Stream Name 202A TRU RH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations as of CY 2001

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |               |     |       |       |
|----------------------|---------------|-----|-------|-------|
| ContainerType        | Stor          | ed  | Proj. | Total |
| RH Canister          |               | 0.9 | 0.0   | 0.9   |
| As-G                 | nerated Total | ი 9 | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.01                          |
| Cellulosics                    | 1.25                          |
| Rubber                         | 0.00                          |
| Plastics                       | 2.93                          |
| Solidified, Inorganic Matrix   | 9.29                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| I IIIai I OIIII IX | adionaciaes                         |
|--------------------|-------------------------------------|
| Isotope            | Typical<br>Concentration<br>(Ci/m3) |
| Am-241             | 3.65E+02                            |
| Pu-238             | 8.43E+01                            |
| Pu-239             | 9.13E-01                            |
| Pu-240             | 1.74E+00                            |
| Pu-241             | 5.32E+04                            |
| Pu-242             | 1.30E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W475 | Stream Name | 202A TF | RU CH combustible S5319 Non-mixed |                         |          | Inventory Date        | 9/30/2 | 002 |
|----------|---------|-------------|---------|-----------------------------------|-------------------------|----------|-----------------------|--------|-----|
| Local ID | N/A     | Handling    | RH      | Final Waste Form Combustible      | Waste Matrix Code S5319 | Activity | y Concentrations as o | f CY 2 | 001 |
|          |         |             |         |                                   |                         |          |                       |        |     |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                  |        |       |       |
|----------------------|------------------|--------|-------|-------|
| ContainerType        |                  | Stored | Proj. | Total |
| RH Canister          |                  | 6.2    | 0.0   | 6.2   |
| As                   | -Generated Total | 6.2    | 0.0   | 6.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 6.2    | 0.0   | 6.2   |
|                    | Final Form Total | 6.2    | 0.0   | 6.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.92                          |
| Other Inorganic Materials      | 0.34                          |
| Cellulosics                    | 4.41                          |
| Rubber                         | 28.46                         |
| Plastics                       | 27.65                         |
| Solidified, Inorganic Matrix   | 13.85                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.98E+02                            |
| Pu-238  | 1.29E+02                            |
| Pu-239  | 1.23E+00                            |
| Pu-240  | 2.12E+00                            |
| Pu-241  | 5.99E+04                            |
| Pu-242  | 1.48E-05                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W477 Stream Name 202A TRU RH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations as of CY 2001

**Final Waste Form Descriptors** 

**RL-W477** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 1.8    | 0.0   | 1.8   |
|                      | As-Generated Total | 1.8    | 0.0   | 1.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 1.8    | 0.0   | 1.8   |
|                    | Final Form Total | 1.8    | 0.0   | 1.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 102.17                        |
| Other Inorganic Materials      | 2.81                          |
| Cellulosics                    | 5.21                          |
| Rubber                         | 4.92                          |
| Plastics                       | 28.17                         |
| Solidified, Inorganic Matrix   | 26.66                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.65E+02                            |
| Pu-238  | 1.12E+02                            |
| Pu-239  | 1.33E+00                            |
| Pu-240  | 2.35E+00                            |
| Pu-241  | 6.78E+04                            |
| Pu-242  | 1.70E-05                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

#### Appendix I Waste Stream ID: **RL-W478** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 202A TRU RH heterogeneous S5440 Non-mixed HQ ID RL-W478 Inventory Date 9/30/2002 N/A RH Waste Matrix Code S5440 Local ID Handling Final Waste Form Heterogeneous Debris Activity Concentrations as of CY 2001

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance

# Waste Volume Detail (m3)

| As-Generated Volumes |                |        |       |       |
|----------------------|----------------|--------|-------|-------|
| ContainerType        |                | Stored | Proj. | Total |
| RH Canister          |                | 23.1   | 0.0   | 23.1  |
| As-G                 | enerated Total | 23.1   | 0.0   | 23.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 23.1   | 0.0   | 23.1  |
|                    | Final Form Total | 23.1   | 0.0   | 23.1  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.39                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 84.33                         |
| Other Inorganic Materials      | 8.26                          |
| Cellulosics                    | 16.20                         |
| Rubber                         | 12.36                         |
| Plastics                       | 44.62                         |
| Solidified, Inorganic Matrix   | 22.11                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.40E+02                            |
| Pu-238  | 4.84E+01                            |
| Pu-239  | 5.94E-01                            |
| Pu-240  | 8.93E-01                            |
| Pu-241  | 2.29E+04                            |
| Pu-242  | 5.61E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W479 | Stream Name | 202A TR | RU RH heterogeneous S5900 Non-mixed   |                         |         | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|---------------------------------------|-------------------------|---------|--------------------------------|
| Local ID | N/A     | Handling    | RH      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5900 | Activit | y Concentrations as of CY 2001 |
|          |         |             |         |                                       |                         |         |                                |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.9    | 0.0   | 0.9   |
|                      | As-Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 35.35                         |
| Other Inorganic Materials      | 7.73                          |
| Cellulosics                    | 3.63                          |
| Rubber                         | 3.08                          |
| Plastics                       | 17.10                         |
| Solidified, Inorganic Matrix   | 26.37                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

|   | i iliai i oriii itaalollaciiaes |                                     |  |  |  |  |
|---|---------------------------------|-------------------------------------|--|--|--|--|
| - | sotope                          | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| A | \m-241                          | 2.53E+02                            |  |  |  |  |
| F | Pu-238                          | 5.97E+01                            |  |  |  |  |
| F | Pu-239                          | 9.19E-01                            |  |  |  |  |
| F | Pu-240                          | 1.36E+00                            |  |  |  |  |
| F | Pu-241                          | 3.69E+04                            |  |  |  |  |
| F | Pu-242                          | 8.43E-06                            |  |  |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W556 Stream Name 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ org,met,Hg |          |    |                      |                   | Inventory Date | 9/30/20 | 002                   |         |     |
|----------|--|----------|----|----------------------|-------------------|----------------|---------|-----------------------|---------|-----|
| Local ID | N/A  | Handling | СН | Final Waste Form N/A | Waste Matrix Code | S9000          | Activit | y Concentrations as o | f CY 20 | )01 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.90                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.10                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 5.43                          |
| Solidified, Inorganic Matrix   | 10.37                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.36E+00                            |
| Pu-238  | 1.22E+00                            |
| Pu-239  | 3.82E+01                            |
| Pu-240  | 8.47E+00                            |
| Pu-241  | 8.93E+01                            |
| Pu-242  | 6.49E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W557 | Stream Name | 2345Z M | ITRU CH unknown forms S9000 Mixed RCRA w/ or | rg,ign            |             | Inventory Date          | 9/30/2002 |
|----------|---------|-------------|---------|--|-------------------|-------------|-------------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form N/A                         | Waste Matrix Code | S9000 Activ | ty Concentrations as of | f CY 2001 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 9.52                          |
| Rubber                         | 0.00                          |
| Plastics                       | 61.90                         |
| Solidified, Inorganic Matrix   | 47.62                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 36.67                         |
| Soils                          | 110.95                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| 4.18E-04                            |  |  |  |  |  |
| 1.35E-04                            |  |  |  |  |  |
| 5.07E-03                            |  |  |  |  |  |
| 1.14E-03                            |  |  |  |  |  |
| 1.68E-02                            |  |  |  |  |  |
| 6.84E-08                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Waste Stream ID: RL-W558 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W558 Stream Name 2345Z MTRU CH unknown forms S9000 Mixed RCRA w/ org

Local ID N/A Handling CH Final Waste Form N/A Waste Matrix Code S9000 Activity Concentrations as of CY 2001

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |  |
|----------------------|--------------------|--------|-------|-------|--|--|
| ContainerType        |                    | Stored | Proj. | Total |  |  |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |  |  |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |  |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 6.00                          |
| Other Inorganic Materials      | 2.52                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 11.10                         |
| Plastics                       | 51.71                         |
| Solidified, Inorganic Matrix   | 92.62                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 16.05                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.86E-01                            |
| Cs-137  | 5.11E-03                            |
| Pu-238  | 1.55E-01                            |
| Pu-239  | 1.94E+00                            |
| Pu-240  | 4.32E-01                            |
| Pu-241  | 1.05E+01                            |
| Pu-242  | 2.62E-05                            |
| Sr-90   | 4.68E-03                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

#### RL-W559 Waste Stream ID:

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W559          | Stream Name | 2345Z N | ATRU CH unknown forms S9000 Mixed RC | RA w/ met,ign |               |       |          | Inventory Date         | 9/30/20      | )02 |
|----------|------------------|-------------|---------|--------------------------------------|---------------|---------------|-------|----------|------------------------|--------------|-----|
| Local ID | N/A              | Handling    | CH      | Final Waste Form N/A                 | Waste         | e Matrix Code | S9000 | Activity | y Concentrations as of | <b>CY</b> 20 | )01 |
| Final Wa | oto Form Decerin | to          |         |                                      | Weets         | Motorial Dave |       |          | Final Form Radianu     | مانامم       |     |

#### Final Waste Form Descriptors

Source: Facility/Equipment Operation and Maintenance Category: Defense TRU Waste Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 3.86                          |
| Rubber                         | 0.00                          |
| Plastics                       | 153.57                        |
| Solidified, Inorganic Matrix   | 114.00                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 100.00                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| mai i omi Nadionaonacs |                                     |  |  |  |
|------------------------|-------------------------------------|--|--|--|
| Isotope                | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                 | 3.89E-03                            |  |  |  |
| Pu-238                 | 1.60E-03                            |  |  |  |
| Pu-239                 | 5.85E-02                            |  |  |  |
| Pu-240                 | 1.31E-02                            |  |  |  |
| Pu-241                 | 2.23E-01                            |  |  |  |
| Pu-242                 | 7.89E-07                            |  |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W560 | Stream Name | 2345Z N | TRU CH unknown forms S9000 Mixed RCRA w/ me | et                      |         | Inventory Date         | 9/30/2002      |
|----------|---------|-------------|---------|---|-------------------------|---------|------------------------|----------------|
| Local ID | N/A     | Handling    | CH      | Final Waste Form N/A                        | Waste Matrix Code S9000 | Activit | y Concentrations as of | <b>CY</b> 2001 |
|          |         |             |         |   |                         |         |                        |                |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 4.0    | 0.0   | 4.0   |
|                      | As-Generated Total | 4.0    | 0.0   | 4.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.0    | 0.0   | 4.0   |
|                    | Final Form Total | 4.0    | 0.0   | 4.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 78.52                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.72                          |
| Other Inorganic Materials      | 26.66                         |
| Cellulosics                    | 1.37                          |
| Rubber                         | 23.46                         |
| Plastics                       | 15.99                         |
| Solidified, Inorganic Matrix   | 16.37                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 15.86                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|-------------------------------------|--|--|--|--|
| 7.35E+00                            |  |  |  |  |
| 8.30E-01                            |  |  |  |  |
| 2.17E+01                            |  |  |  |  |
| 5.69E+00                            |  |  |  |  |
| 4.89E+01                            |  |  |  |  |
| 5.06E-04                            |  |  |  |  |
|                                     |  |  |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W561 | Stream Name | 2345Z M | TRU CH unknown forms S9000 Mixed RCRA w/ m | net,Hg,cor              | 1        | Inventory Date         | 9/30/2002      | 2 |
|----------|---------|-------------|---------|--|-------------------------|----------|------------------------|----------------|---|
| Local ID | N/A     | Handling    | СН      | Final Waste Form N/A                       | Waste Matrix Code S9000 | Activity | y Concentrations as of | <b>CY</b> 2001 | 1 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.33                          |
| Other Inorganic Materials      | 0.38                          |
| Cellulosics                    | 14.71                         |
| Rubber                         | 33.52                         |
| Plastics                       | 25.14                         |
| Solidified, Inorganic Matrix   | 166.95                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 44.67                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.16E-03                            |
| Pu-238  | 4.37E-04                            |
| Pu-239  | 1.61E-02                            |
| Pu-240  | 3.61E-03                            |
| Pu-241  | 5.87E-02                            |
| Pu-242  | 2.18E-07                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    |     |          |    |                  |     |                   |       | Inventory Date | 9/30/                  | 2002 |      |
|----------|-----|----------|----|------------------|-----|-------------------|-------|----------------|------------------------|------|------|
| Local ID | N/A | Handling | СН | Final Waste Form | N/A | Waste Matrix Code | S9000 | Activity       | y Concentrations as of | CY   | 2001 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.0    | 0.0   | 1.0   |
|                      | As-Generated Total | 1.0    | 0.0   | 1.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.0    | 0.0   | 1.0   |
|                    | Final Form Total | 1.0    | 0.0   | 1.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 102.63                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 4.99                          |
| Other Inorganic Materials      | 3.24                          |
| Cellulosics                    | 19.89                         |
| Rubber                         | 100.57                        |
| Plastics                       | 30.37                         |
| Solidified, Inorganic Matrix   | 53.51                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 51.86                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.68E-02                            |
| Pu-238  | 1.38E-02                            |
| Pu-239  | 5.09E-01                            |
| Pu-240  | 1.14E-01                            |
| Pu-241  | 1.85E+00                            |
| Pu-242  | 6.86E-06                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# RL-W577 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W577 Stream Name 2345Z TRU RH unknown forms \$9000 Non-mixed

Local ID N/A Handling RH Final Waste Form N/A Waste Matrix Code \$9000 Activity Concentrations as of CY 2001

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 2.7    | 0.0   | 2.7   |
| 4                    | As-Generated Total | 2.7    | 0.0   | 2.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 2.7    | 0.0   | 2.7   |
|                    | Final Form Total | 2.7    | 0.0   | 2.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 10.11                         |
| Other Inorganic Materials      | 24.84                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 24.72                         |
| Solidified, Inorganic Matrix   | 20.22                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 77.15                         |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 3.01E+02                            |
| 4.70E+01                            |
| 9.47E-01                            |
| 3.88E+00                            |
| 2.77E+04                            |
| 3.65E-05                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W578 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W578 Stream Name 2345Z TRU RH unknown forms U9999 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form N/A Waste Matrix Code U9999 Activity Concentrations as of CY 2001

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                 |        |       |       |
|----------------------|-----------------|--------|-------|-------|
| ContainerType        | 5               | Stored | Proj. | Total |
| RH Canister          |                 | 5.3    | 0.0   | 5.3   |
| As                   | Generated Total | 5.3    | 0.0   | 5.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 5.3    | 0.0   | 5.3   |
|                    | Final Form Total | 5.3    | 0.0   | 5.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i oilii itaalollaciiaes |                                     |  |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                          | 1.10E+01                            |  |  |  |  |
| Pu-238                          | 2.67E+00                            |  |  |  |  |
| Pu-239                          | 1.28E-01                            |  |  |  |  |
| Pu-240                          | 1.04E-01                            |  |  |  |  |
| Pu-241                          | 7.26E+02                            |  |  |  |  |
| Pu-242                          | 1.07E-07                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W609 Stream Name 324 MTRU CH unknown f                             | forms S900 | 00 Mixed F | RCRA w/ org | g,met,Hg                     |                               | Invent           | ory Date 9/30/2002                  |
|---|------------|------------|-------------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | N/A        |             | Waste Matrix Code S9000      | Activ                         | vity Concentrati | ons as of CY 2001                   |
| Final Waste Form Descriptors  |            |            |             | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste | •          |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |            |             | Iron-Base Metal/Alloys       | 985.71                        | Am-241           | 2.05E-04                            |
| ContainerType   | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137           | 2.94E-02                            |
| 55 Gallon Drum  | 0.2        |            |             | Other Metal/Alloys           | 480.95                        | Pu-239           | 5.78E-04                            |
|   |            |            |             | Other Inorganic Materials    | 110.62                        | Sr-90            | 2.90E-01                            |
| As-Generated Total  | 0.2        | 0.0        | 0.2         | Cellulosics                  | 0.00                          |                  |                                     |
| Final Form Volumes  |            |            |             | Rubber                       | 0.00                          |                  |                                     |
| ContainerType   | Stored     | Proj.      | Total       | Plastics                     | 0.00                          |                  |                                     |
| 55 Gallon Drum  | 0.2        |            |             | Solidified, Inorganic Matrix | 9.29                          |                  |                                     |
|   |            |            |             | Cement (Solidified)          | 0.00                          |                  |                                     |
| Final Form Total  | 0.2        | 0.0        | 0.2         | Vitrified                    | 0.00                          |                  |                                     |
|   |            |            |             | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|   |            |            |             | Soils                        | 0.00                          |                  |                                     |
|   |            |            |             | Packaging Material, Steel    | 131.00                        |                  |                                     |
|   |            |            |             | Packaging Material, Plastic  | 37.00                         |                  |                                     |
|   |            |            |             | Packaging Material, Lead     | 0.00                          |                  |                                     |

Packaging Material, Steel Plug

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W650          | Stream Nai | ne 325 TR | U CH unknown forms S9000 Non-mixed |                           |         |          | Inventory      | Date 9    | /30/2002      |
|----------|------------------|------------|-----------|------------------------------------|---------------------------|---------|----------|----------------|-----------|---------------|
| Local ID | N/A              | Handli     | ng CH     | Final Waste Form N/A               | Waste Matrix Code S9000   | -       | Activity | Concentrations | s as of C | <b>Y</b> 2001 |
| Final Wa | ste Form Descrip | otors      |           |                                    | Waste Material Parameters |         |          | Final Form Ra  | ndionucl  | ides          |
| Categ    | ory: Defense TF  | RU Waste   | Source:   | R&D/R&D Laboratory Waste           |                           | Average |          |                | Тур       | oical         |

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Farm Valumas   |                    |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.63                          |
| Other Inorganic Materials      | 208.44                        |
| Cellulosics                    | 3.35                          |
| Rubber                         | 11.10                         |
| Plastics                       | 76.48                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.92E-02                            |
| Cs-137  | 1.14E-01                            |
| Pu-238  | 7.98E-03                            |
| Pu-239  | 7.47E-03                            |
| Pu-240  | 6.62E-03                            |
| Pu-241  | 7.35E-01                            |
| Sr-90   | 4.89E-01                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

# **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W651 Stream Name 325 MTRU CH unknown fo                             | orms S900 | 00 Mixed F | RCRA w/ org, | met                          |                               | Invent     | ory Date 9/30/2002                  |
|--|-----------|------------|--------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Was   | ste Form  | N/A        |              | Waste Matrix Code S9000      | Activ                         |            | ons as of CY 2001                   |
| Final Waste Form Descriptors   |           |            |              | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborat Waste Volume Detail (m3) | ory Waste | )          |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |            |              | Iron-Base Metal/Alloys       | 0.02                          | Am-241     | 3.31E-01                            |
| ContainerType  | Stored    | Proj.      | Total        | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     | 1.05E-01                            |
| 55 Gallon Drum   | 1.0       |            |              | Other Metal/Alloys           | 42.86                         | Pu-238     | 9.40E-02                            |
|  |           | I          |              | Other Inorganic Materials    | 47.62                         | Pu-239     | 4.90E-02                            |
| As-Generated Total   | 1.0       | 0.0        | 1.0          | Cellulosics                  | 0.16                          | Pu-240     | 3.33E-03                            |
| Final Form Volumes   |           |            |              | Rubber                       | 0.00                          | Sr-90      | 2.03E+00                            |
| ContainerType  | Stored    | Proj.      | Total        | Plastics                     | 52.38                         |            |                                     |
| 55 Gallon Drum   | 1.0       |            |              | Solidified, Inorganic Matrix | 27.23                         |            |                                     |
|  |           |            | <u> </u>     | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 1.0       | 0.0        | 1.0          | Vitrified                    | 0.00                          |            |                                     |
|  |           |            |              | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |           |            |              | Soils                        | 0.00                          |            |                                     |
|  |           |            |              | Packaging Material, Steel    | 131.00                        |            |                                     |
|  |           |            |              | Packaging Material, Plastic  | 37.00                         |            |                                     |
|  |           |            |              | Packaging Material, Lead     | 0.00                          |            |                                     |

Packaging Material, Steel Plug

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

# **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W652          | Stream Name 32 |      | RU CH unknown forms S9000 Mixed RCRA w/ org |   |                           |              | Inventory Date 9/30/2002        |
|----------|------------------|----------------|------|---|---|---------------------------|--------------|---------------------------------|
| Local ID | N/A              | Handling       | CH   | Final Waste Form N/A                        |   | Waste Matrix Code S9000   | Activi       | ty Concentrations as of CY 2001 |
| Final Wa | ste Form Descrip | tors.          |      |   | _ | Waste Material Parameters |              | Final Form Radionuclides        |
|          | -                |                | 6    | 000/00011 / //                              |   | Waste Material Larameters | <del> </del> |                                 |
| Categ    | ory: Defense TF  | Sou Sou        | rce: | R&D/R&D Laboratory Waste                    |   |                           | Average      | Typical                         |

# Waste Volume Detail (m3)

| As-Generated Volumes |                 |        |       |       |
|----------------------|-----------------|--------|-------|-------|
| ContainerType        |                 | Stored | Proj. | Total |
| Standard Waste Box   |                 | 3.8    | 0.0   | 3.8   |
| As-                  | Generated Total | 3.8    | 0.0   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 3.8    | 0.0   | 3.8   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 374.67                        |
| Other Inorganic Materials      | 177.16                        |
| Cellulosics                    | 0.29                          |
| Rubber                         | 0.00                          |
| Plastics                       | 5.11                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.31E-04                            |
| Cs-137  | 7.06E-01                            |
| Pu-238  | 1.46E-03                            |
| Pu-239  | 3.77E-03                            |
| Pu-240  | 9.01E-04                            |
| Pu-241  | 1.34E-02                            |
| Pu-242  | 4.47E-08                            |
| Sr-90   | 3.64E+00                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

# **Management Comments**

#### Appendix I Waste Stream ID: RL-W667 TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |         | i           |         |                                    |                         |         | -                      |        |      |
|----------|---------|-------------|---------|------------------------------------|-------------------------|---------|------------------------|--------|------|
| IQ ID    | RL-W667 | Stream Name | 325 TRU | J RH unknown forms S9000 Non-mixed |                         |         | Inventory Date         | 9/30/2 | 2002 |
| _ocal ID | N/A     | Handling    | RH      | Final Waste Form N/A               | Waste Matrix Code S9000 | Activit | y Concentrations as of | CY 2   | 2001 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                 |      |       |       |
|----------------------|-----------------|------|-------|-------|
| ContainerType        | Sto             | ored | Proj. | Total |
| RH Canister          |                 | 0.9  | 0.0   | 0.9   |
| Δs-                  | Generated Total | 0.9  | 0.0   | 0.9   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| RH Canister        | 0.9    | 0.0   | 0.9   |
|                    |        | 1     |       |

Final Form Total 0.9 0.9 0.0

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 11.57                         |
| Other Inorganic Materials      | 19.49                         |
| Cellulosics                    | 1.07                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.69                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.02E+00                            |  |  |
| Pu-238  | 1.10E+00                            |  |  |
| Pu-239  | 1.25E-02                            |  |  |
| Pu-240  | 1.07E-02                            |  |  |
| Pu-241  | 4.06E+01                            |  |  |
| Pu-242  | 1.60E-08                            |  |  |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

# **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W684 | Stream Name | 327 TRU | RH heterogeneous S5420 Non-mixed      |                         |         | Inventory Date         | 9/30/2002      |
|----------|---------|-------------|---------|---------------------------------------|-------------------------|---------|------------------------|----------------|
| Local ID | N/A     | Handling    | RH      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5420 | Activit | y Concentrations as of | <b>CY</b> 2001 |
|          |         |             |         |                                       |                         |         |                        |                |

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                 |        |       |       |
|----------------------|-----------------|--------|-------|-------|
| ContainerType        |                 | Stored | Proj. | Total |
| RH Canister          |                 | 0.9    | 0.0   | 0.9   |
| -As-                 | Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 75666.36                      |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 727.53                        |
| Other Inorganic Materials      | 214.72                        |
| Cellulosics                    | 40.11                         |
| Rubber                         | 38.31                         |
| Plastics                       | 64.97                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.92                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.07E+03                            |
| Cs-137  | 3.61E+03                            |
| Pu-238  | 3.57E+02                            |
| Pu-239  | 2.50E+01                            |
| Pu-240  | 2.43E+01                            |
| Pu-241  | 1.80E+05                            |
| Pu-242  | 2.25E-02                            |
| Sr-90   | 1.41E+03                            |
| U-235   | 2.59E-04                            |
| U-238   | 1.76E-02                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

## **Management Comments**

n the interim state, the waste stream consists of 33 containers, 31 of which have an internal container volume of 0.0126 m3. The container with the largest internal volume of 0.25 m3 holds highly enriched uranium oxides. The waste material is irradiated fuel element segments from LANL. It was repackaged at the 327 Building prior to shipment for storage as TRU waste. The U235 content is 50% by weight.

# Waste Stream ID: RL-W722 Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W722 Stream Name MCGEE TRU CH unknown forms \$9000 Non-mixed

Local ID N/A Handling CH Final Waste Form N/A Waste Matrix Code \$9000 Activity Concentrations as of CY 2001

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |  |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 124.80                        |
| Other Inorganic Materials      | 17.20                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 15.84                         |
| Solidified, Inorganic Matrix   | 142.72                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 30.72                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 1.47E-02                            |  |  |  |
| Pu-238  | 4.19E-03                            |  |  |  |
| Pu-239  | 1.60E-01                            |  |  |  |
| Pu-240  | 3.58E-02                            |  |  |  |
| Pu-241  | 4.80E-01                            |  |  |  |
| Pu-242  | 2.16E-06                            |  |  |  |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  |             |          |         |                                |                               |            | Inventory Date 9/30/2002 Concentrations as of CY 2003 |  |
|--|-------------|----------|---------|--------------------------------|-------------------------------|------------|---|--|
| Final Waste Form Descriptors                   | _           |          |         | Waste Material Parameters      |                               | Final Form | Radionuclides   |  |
| Category: N/A Source: Facility/Equipment Waste | t Operation | and Main | tenance | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)                   |  |
| Waste Volume Detail (m3)                       |             |          |         | Iron-Base Metal/Alloys         | 0.00                          | Am-241     | 4.31E+01  |  |
| As-Generated Volumes                           |             |          |         | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-238     | 1.81E+01  |  |
| ContainerType                                  | Stored      | Proj.    | Total   | Other Metal/Alloys             | 0.00                          | Pu-239     | 3.54E+01  |  |
| POC  | 0.0         | 294.0    | 294.0   | Other Inorganic Materials      | 0.00                          | Pu-240     | 2.15E+01  |  |
| As-Generated Total                             | 0.0         | 294.0    | 294.0   | Cellulosics                    | 0.00                          | Pu-241     | 8.35E+02  |  |
|  | 1           |          |         | Rubber                         | 0.00                          | Pu-242     | 9.59E-03  |  |
| Final Form Volumes                             |             |          |         | Plastics                       | 48.02                         | U-238      | 1.92E-03  |  |
| ContainerType                                  | Stored      | Proj.    | Total   | Solidified, Inorganic Matrix   | 129.80                        |            | -   |  |
| POC  | 0.0         | 294.0    | 294.0   | Cement (Solidified)            | 0.00                          |            |   |  |
| Final Form Total                               | 0.0         | 294.0    | 294.0   | Vitrified                      | 0.00                          |            |   |  |
|  |             |          |         | Solidified, Organic Matrix     | 0.00                          |            |   |  |
|  |             |          |         | Soils                          | 9.52                          |            |   |  |
|  |             |          |         | Packaging Material, Steel      | 400.00                        |            |   |  |
|  |             |          |         | Packaging Material, Plastic    | 0.00                          |            |   |  |
|  |             |          |         | Packaging Material, Lead       | 0.00                          |            |   |  |
|  |             |          |         | Packaging Material, Steel Plug | 0.00                          |            |   |  |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

# **Management Comments**

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Stream Name Hanford Buried TRU Waste  Docal ID N/A Handling U Final Waste Form N/A Waste Matrix Code N/A Activity |                       |                  |                      |   |                               | Inventory Date 9/30/2002 vity Concentrations as of CY N/A |
|---|-----------------------|------------------|----------------------|---|-------------------------------|---|
| Final Waste Form Descriptors  Category: Defense TRU Waste Source: N/A   |                       |                  |                      | Waste Material Parameters  Material Parameter           | Average<br>Density<br>(kg/m3) | No Final Form<br>Radionuclides Provided                   |
| Waste Volume Detail (m3)  As-Generated Volumes  |                       |                  |                      | Iron-Base Metal/Alloys Aluminum-Base Metal/Alloys       | 0.00                          |   |
| ContainerType Not contained   | <b>Stored</b> 63629.0 | <b>Proj.</b> 0.0 | <b>Total</b> 63629.0 | Other Metal/Alloys Other Inorganic Materials            | 0.00                          |   |
| As-Generated Total  | 63629.0               | 0.0              | 63629.0              | Cellulosics<br>Rubber                                   | 0.00                          |   |
| Final Form Volumes ContainerType  | Stored                | Proj.            | Total                | Plastics Solidified, Inorganic Matrix                   | 0.00                          |   |
| Community Po  | 0.0                   | 0.0              | 0.0                  | Cement (Solidified) Vitrified                           | 0.00                          |   |
| Final Form Total  | 0.0                   | 0.0              | 0.0                  | Solidified, Organic Matrix Soils                        | 0.00                          |   |
|   |                       |                  |                      | Packaging Material, Steel Packaging Material, Plastic   | 0.00                          |   |
|   |                       |                  |                      | Packaging Material, Lead Packaging Material, Steel Plug | 0.00                          |   |

**Waste Stream Description** 

N/A

**Management Comments** 

0.00

Packaging Material, Steel Plug

# Waste Stream ID: RL-Z002

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-Z002 Stream Name 324 TRU CH vitrified forms                           | s Z1120 N | lon-mixed |       |                              |                               | Invent           | ory Date 9/30/2002                  |
|--|-----------|-----------|-------|------------------------------|-------------------------------|------------------|-------------------------------------|
| cal ID N/A Handling CH Final Waste Form N/A                                    |           |           |       | Waste Matrix Code Z1120      | Activ                         | rity Concentrati | ons as of CY 2001                   |
| Final Waste Form Descriptors   |           |           |       | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborate  Waste Volume Detail (m3) | ory Waste |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |       | Iron-Base Metal/Alloys       | 205.47                        | Pu-239           | 1.58E-01                            |
| ContainerType  | Stored    | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          |                  |                                     |
| Standard Waste Box   | 1.9       | 0.0       |       | Other Metal/Alloys           | 0.00                          |                  |                                     |
|  |           |           |       | Other Inorganic Materials    | 419.79                        |                  |                                     |
| As-Generated Total   | 1.9       | 0.0       | 1.9   | Cellulosics                  | 0.00                          |                  |                                     |
| Final Form Volumes   |           |           |       | Rubber                       | 0.00                          |                  |                                     |
| ContainerType  | Stored    | Proj.     | Total | Plastics                     | 0.00                          |                  |                                     |
| Standard Waste Box   | 1.9       | 0.0       | 1.9   | Solidified, Inorganic Matrix | 0.00                          |                  |                                     |
|  |           |           |       | Cement (Solidified)          | 0.00                          |                  |                                     |
| Final Form Total   | 1.9       | 0.0       | 1.9   | Vitrified                    | 0.00                          |                  |                                     |
|  |           |           |       | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|  |           |           |       | Soils                        | 0.00                          |                  |                                     |
|  |           |           |       | Packaging Material, Steel    | 154.00                        |                  |                                     |
|  |           |           |       | Packaging Material, Plastic  | 1.20                          |                  |                                     |
|  |           |           |       | Packaging Material, Lead     | 0.00                          |                  |                                     |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-Z003 | Stream Name | 324 TRU | RH vitrified forms Z1120 Non-mixed |                         |         | Inventory Date        | 9/30/2002 |
|----------|---------|-------------|---------|------------------------------------|-------------------------|---------|-----------------------|-----------|
| Local ID | N/A     | Handling    | RH      | Final Waste Form N/A               | Waste Matrix Code Z1120 | Activit | y Concentrations as o | FCY 2001  |
|          |         |             |         |                                    |                         |         |                       |           |

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 3.6    | 0.0   | 3.6   |
|                      | As-Generated Total | 3.6    | 0.0   | 3.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 3.6    | 0.0   | 3.6   |
|                    | Final Form Total | 3.6    | 0.0   | 3.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 556.29                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1067.72                       |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|-------------------------------------|--|--|--|--|
| 8.68E+00                            |  |  |  |  |
| 1.36E+06                            |  |  |  |  |
| 3.09E-02                            |  |  |  |  |
| 4.29E-02                            |  |  |  |  |
| 7.09E+02                            |  |  |  |  |
| 1.25E-06                            |  |  |  |  |
| 1.11E+06                            |  |  |  |  |
|                                     |  |  |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| ocal ID   | Q ID SA-Z001 Stream Name Sandia National Laboratory/NM Buried TRU Waste  ocal ID N/A Handling CH Final Waste Form N/A Waste Matrix Code N/A Activity |        |       |       |                                |                               |                        |  |
|-----------|--|--------|-------|-------|--------------------------------|-------------------------------|------------------------|--|
| Final Was | te Form Descriptors  |        |       |       | Waste Material Parameters      |                               | No Final Form          |  |
|           | Defense TRU Waste Source: N/A  |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided |  |
| Waste Vo  | lume Detail (m3)   |        |       |       | Iron-Base Metal/Alloys         | 0.00                          |                        |  |
| As-Ger    | erated Volumes   |        |       |       | Aluminum-Base Metal/Alloys     | 0.00                          |                        |  |
| Contai    | nerType  | Stored | Proj. | Total | Other Metal/Alloys             | 0.00                          |                        |  |
| Not cor   | tained   | 1.3    | 0.0   | 1.3   | Other Inorganic Materials      | 0.00                          |                        |  |
|           | As-Generated Total   | 1.3    | 0.0   | 1.3   | Cellulosics                    | 0.00                          |                        |  |
|           | As-Generated Total   | 1.5    | 0.0   | 1.5   | Rubber                         | 0.00                          |                        |  |
| Final F   | orm Volumes  |        |       |       | Plastics                       | 0.00                          |                        |  |
| Contai    | nerType  | Stored | Proj. | Total | Solidified, Inorganic Matrix   | 0.00                          |                        |  |
|           |  | 0.0    | 0.0   | 0.0   | Cement (Solidified)            | 0.00                          |                        |  |
|           | Final Form Total   | 0.0    | 0.0   | 0.0   | Vitrified                      | 0.00                          |                        |  |
|           | Filial Folili Total  | 0.0    | 0.0   | 0.0   | Solidified, Organic Matrix     | 0.00                          |                        |  |
|           |  |        |       |       | Soils                          | 0.00                          |                        |  |
|           |  |        |       |       | Packaging Material, Steel      | 0.00                          |                        |  |
|           |  |        |       |       | Packaging Material, Plastic    | 0.00                          |                        |  |
|           |  |        |       |       | Packaging Material, Lead       | 0.00                          |                        |  |
|           |  |        |       |       | Packaging Material, Steel Plug | 0.00                          |                        |  |

**Waste Stream Description** 

N/A

**Management Comments** 

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name                                  |                    | ste Form | Solidified I | norganics | Waste Matrix Code S3120      | Activ                         |            | ory Date 9/30/2002<br>ons as of CY N/A |
|--|--------------------|----------|--------------|-----------|------------------------------|-------------------------------|------------|--|
| Final Waste Form Descriptors                           |                    |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                          |
| Category: Defense TRU Waste S Waste Volume Detail (m3) | ource: N/A         |          |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)    |
| As-Generated Volumes                                   |                    |          |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     |  |
| ContainerType  |                    | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     |  |
| Drum / 55 gallon                                       |                    | 0.0      | 50.1         | 50.1      | Other Metal/Alloys           | 0.00                          | Pu-239     |  |
| 2.a, co ganon  |                    | 0.0      | 00           | 00        | Other Inorganic Materials    | 0.00                          | Sr-90      |  |
|  | As-Generated Total | 0.0      | 50.1         | 50.1      | Cellulosics                  | 0.00                          | l-         |  |
| Final Form Volumes                                     |                    |          |              |           | Rubber                       | 0.00                          |            |  |
| ContainerType  |                    | Stored   | Proj.        | Total     | Plastics                     | 0.00                          |            |  |
| 55 Gallon Drum   |                    | 0.0      | 50.1         | 50.1      | Solidified, Inorganic Matrix | 0.00                          |            |  |
| or Callett Brain                                       |                    | 0.0      | 00.1         | 00.1      | Cement (Solidified)          | 0.00                          |            |  |
|  | Final Form Total   | 0.0      | 50.1         | 50.1      | Vitrified                    | 0.00                          |            |  |
|  |                    |          |              |           | Solidified, Organic Matrix   | 0.00                          |            |  |
|  |                    |          |              |           | Soils                        | 0.00                          |            |  |
|  |                    |          |              |           | Packaging Material, Steel    | 0.00                          |            |  |
|  |                    |          |              |           | Packaging Material, Plastic  | 0.00                          |            |  |
|  |                    |          |              |           | Packaging Material, Lead     | 0.00                          |            |  |

0.00

Packaging Material, Steel Plug

# **Waste Stream Description**

Separations Process Research Unit.

# **Management Comments**

Final form is unknown at this time. Tbrown assumed 55 gallon drums.

# Waste Stream ID: SR-T001-WSB-1

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         N/A         Stream Name UNKNOWN           Local ID         N/A         Handling CH         Final Was | ste Form N | I/A    |        | Waste Matrix Code N/A          | Activ                         |            | ory Date 9/30/2002<br>ons as of CY 2007 |
|--|------------|--------|--------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |            |        |        | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Source Unknown  Waste Volume Detail (m3)                                       |            |        |        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |            |        |        | Iron-Base Metal/Alloys         | 0.00                          | Am-241     | 2.99E+02                                |
| ContainerType  | Stored     | Proj.  | Total  | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-238     | 6.77E-03                                |
| Standard Waste Box   | 0.0        | 4320.5 | 4320.5 | Other Metal/Alloys             | 0.00                          | Pu-239     | 4.44E-02                                |
|  |            |        |        | Other Inorganic Materials      | 0.00                          | Pu-240     | 1.69E-02                                |
| As-Generated Total   | 0.0        | 4320.5 | 4320.5 | Cellulosics                    | 0.00                          | Pu-241     | 8.17E+00                                |
| Final Form Volumes   |            |        |        | Rubber                         | 0.00                          | U-234      | 1.32E-03                                |
| ContainerType  | Stored     | Proj.  | Total  | Plastics                       | 0.00                          | U-235      | 4.25E-05                                |
| Standard Waste Box   | 0.0        | 4320.5 | 4320.5 | Solidified, Inorganic Matrix   | 720.00                        | U-236      | 6.83E-07                                |
|  |            |        |        | Cement (Solidified)            | 0.00                          | U-238      | 3.84E-07                                |
| Final Form Total   | 0.0        | 4320.5 | 4320.5 | Vitrified                      | 0.00                          |            |   |
|  |            |        |        | Solidified, Organic Matrix     | 0.00                          |            |   |
|  |            |        |        | Soils                          | 0.00                          |            |   |
|  |            |        |        | Packaging Material, Steel      | 0.00                          |            |   |
|  |            |        |        | Packaging Material, Plastic    | 0.00                          |            |   |
|  |            |        |        | Packaging Material, Lead       | 0.00                          |            |   |
|  |            |        |        | Packaging Material, Steel Plug | 0.00                          |            |   |

# **Management Comments**

No EPA codes or TRUCON CODES have been assigned

Delta between Total # Projected and 150/yr for 16 yrs (2400) is because Total # Projected was calculated from given volume and 150/yr was from given comment. Tbrown 3/22/03

# Waste Stream ID: SR-T001-WSB-3

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name UNKNOWN  |  |       |          |                               |                               | Invent         | ory Date 9/30/2002                  |
|--|--|-------|----------|-------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form                                     | N/A   |          | Waste Matrix Code N/A         | Activi                        | ty Concentrati | ons as of CY 2007                   |
| Final Waste Form Descriptors   |  |       |          | Waste Material Parameters     |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Unknown  Waste Volume Detail (m3) |  |       |          | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |  |       |          | Iron-Base Metal/Alloys        | 0.00                          | Pu-238         | 6.15E-01                            |
| ContainerType  | Stored                                       | Proj. | Total    | Aluminum-Base Metal/Alloys    | 0.00                          | Pu-239         | 4.04E+00                            |
| Drum / 55 gallon   | 0.0  | 144.1 | 144.1    | Other Metal/Alloys            | 0.00                          | Pu-240         | 1.48E+00                            |
|  | <u>                                     </u> |       |          | Other Inorganic Materials     | 250.00                        | Pu-241         | 7.45E+00                            |
| As-Generated Total   | 0.0  | 144.1 | 144.1    | Cellulosics                   | 0.00                          | U-234          | 4.51E-03                            |
| Final Form Volumes   |  |       |          | Rubber                        | 0.00                          | U-235          | 1.45E-04                            |
| ContainerType  | Stored                                       | Proj. | Total    | Plastics                      | 0.00                          | U-238          | 1.31E-06                            |
| 55 Gallon Drum   | 0.0  | 144.1 | 144.1    | Solidified, Inorganic Matrix  | 0.00                          |                |                                     |
|  | l  |       | <u>\</u> | Cement (Solidified)           | 0.00                          |                |                                     |
| Final Form Total   | 0.0  | 144.1 | 144.1    | Vitrified                     | 0.00                          |                |                                     |
|  |  |       |          | Solidified, Organic Matrix    | 0.00                          |                |                                     |
|  |  |       |          | Soils                         | 0.00                          |                |                                     |
|  |  |       |          | Packaging Material, Steel     | 0.00                          |                |                                     |
|  |  |       |          | Packaging Material, Plastic   | 0.00                          |                |                                     |
|  |  |       |          | Packaging Material, Lead      | 0.00                          |                |                                     |
|  |  |       |          | Packaging Material Steel Plug | 0.00                          |                |                                     |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU and is a neutralized aqueous stream in an inorganic sorbent.

## **Management Comments**

Approximately 45 55-gallon drums per year will be produced. The inorganic sorbent will contain 15 grams of Pu and 15 grams of HEU. The distribution of the Pu is Pu239 – 90 to 95%, Pu240- 5 to 9%, Pu241- <1%, Pu242- <.1%, and Pu238- <.5%. The uranium distribution is U235- 93%, U238- 5.4%, U236- .5%, and U234- 1%. The TRUCON codes have not yet been assigned.

Delta between Total # Projected and 45/yr for 16 yrs (720) is because Total # Projected was calculated from given volume and 45/yr was from given comment. Tbrown 3/22/03

0.00

0.00

# Waste Stream ID: SR-W026-MFFF-1

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name UNKNOWN   |             |            |             |                              |                               |                 | ory Date 9/30/2002                  |
|---|-------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form    | Heterogene | eous Debris | Waste Matrix Code N/A        | Activ                         | ity Concentrati | ons as of CY 2007                   |
| Final Waste Form Descriptors  |             |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Main   | tenance     | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |             |            |             | Iron-Base Metal/Alloys       | 3.13                          | Pu-238          | 4.11E-01                            |
| As-Generated Volumes  | 1 - 1       |            |             | Aluminum-Base Metal/Alloys   | 0.07                          | Pu-239          | 2.69E+00                            |
| ContainerType   | Stored      | Proj.      | Total       | Other Metal/Alloys           | 0.04                          | Pu-240          | 9.86E-01                            |
| Drum / 55 gallon  | 0.0         | 2640.1     | 2640.1      | Other Inorganic Materials    | 1.24                          | Pu-241          | 4.95E+00                            |
| As-Generated Total  | 0.0         | 2640.1     | 2640.1      | Cellulosics                  | 2.20                          | U-234           | 3.00E-06                            |
|   |             |            |             | Rubber                       | 0.26                          | U-235           | 9.66E-07                            |
| Final Form Volumes  |             |            |             | Plastics                     | 15.30                         | U-236           | 1.58E-08                            |
| ContainerType   | Stored      | Proj.      | Total       | Solidified, Inorganic Matrix | 0.00                          | U-238           | 8.75E-09                            |
| 55 Gallon Drum  | 0.0         | 2640.1     | 2640.1      | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.0         | 2640.1     | 2640.1      | Vitrified                    | 0.00                          |                 |                                     |
|   |             | I          |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |             |            |             | Soils                        | 0.00                          |                 |                                     |
|   |             |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|   |             |            |             | Packaging Material, Plastic  | 5.00                          |                 |                                     |

### **Waste Stream Description**

This waste stream is defense related, contact handled TRU and is composed of heterogeneous debris which can include HEPA filters, plastic, protective clothing, metal, gloves, lead lined gloves and sludges.

Packaging Material, Lead

Packaging Material, Steel Plug

### **Management Comments**

Delta between Total # Projected and 800/yr for 16 yrs (12800) is because Total # Projected was calculated from given volume and 800/yr was from given comment. Tbrown 3/22/03

Waste Stream ID: SR-W026-PDCF-1 Appendix I DOE/TRU-2006-3344

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name UNKNOWN                                 |             |           |             |                                |                               | Inventory Date 9/30/2002          |
|---|-------------|-----------|-------------|--------------------------------|-------------------------------|-----------------------------------|
| <u> </u>  | ste Form    | Heterogen | eous Debris | Waste Matrix Code N/A          | Acti                          | vity Concentrations as of CY 2010 |
| Final Waste Form Descriptors                                  |             |           |             | Waste Material Parameters      |                               | No Final Form                     |
| Category: Defense TRU Waste  Source: Facility/Equipment Waste | t Operation | and Main  | itenance    | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided            |
| Waste Volume Detail (m3)                                      |             |           |             | Iron-Base Metal/Alloys         | 3.13                          |                                   |
| As-Generated Volumes  |             |           |             | Aluminum-Base Metal/Alloys     | 0.07                          |                                   |
| ContainerType   | Stored      | Proj.     | Total       | Other Metal/Alloys             | 0.04                          |                                   |
| Drum / 55 gallon  | 0.0         | 1833.1    | 1833.1      | Other Inorganic Materials      | 1.24                          |                                   |
| As-Generated Total  | 0.0         | 1833.1    | 1833.1      | Cellulosics                    | 2.20                          |                                   |
| As-Generated Total  | 0.0         | 1000.1    | 1033.1      | Rubber                         | 0.26                          |                                   |
| Final Form Volumes  |             |           |             | Plastics                       | 15.30                         |                                   |
| ContainerType   | Stored      | Proj.     | Total       | Solidified, Inorganic Matrix   | 0.00                          |                                   |
| 55 Gallon Drum  | 0.0         | 1833.1    | 1833.1      | Cement (Solidified)            | 0.00                          |                                   |
| Final Form Total  | 0.0         | 1833.1    | 1833.1      | Vitrified                      | 0.00                          |                                   |
| Filial Fortil Total   | 0.0         | 1000.1    | 1000.1      | Solidified, Organic Matrix     | 0.00                          |                                   |
|   |             |           |             | Soils                          | 0.00                          |                                   |
|   |             |           |             | Packaging Material, Steel      | 137.00                        |                                   |
|   |             |           |             | Packaging Material, Plastic    | 5.00                          |                                   |
|   |             |           |             | Packaging Material, Lead       | 0.00                          |                                   |
|   |             |           |             | Packaging Material, Steel Plug | 0.00                          |                                   |

### **Waste Stream Description**

This waste stream is defense related, contact handled TRU and is composed of heterogeneous debris which can include HEPA filters, plastic, protective clothing, metal ingots including beryllium, gloves, lead lined gloves and sludges.

### **Management Comments**

The TRUCON and EPA codes have not yet been assigned.

Delta between Total # Projected and 680/yr for 13 yrs (8840) is because Total # Projected was calculated from given volume and 680/yr was from given comment. Tbrown 3/22/03

# Waste Stream ID: SR-W026-WSB-2

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name N/A In   | ventory Date 9/30/2002   |
|--|--------------------------|
| Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code N/A Activity Concer   | rations as of CY 2007    |
| Final Waste Form Descriptors  Waste Material Parameters  Final Fin | orm Radionuclides        |
| Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste Pensity   | Typical<br>Concentration |

## Waste Volume Detail (m3)

| As-Generated Volumes |                  |        |       |       |
|----------------------|------------------|--------|-------|-------|
| ContainerType        |                  | Stored | Proj. | Total |
| Drum / 55 gallon     |                  | 0.0    | 672.0 | 672.0 |
| A                    | -Generated Total | 0.0    | 672.0 | 672.0 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.0    | 672.0 | 672.0 |
|                    | Final Form Total | 0.0    | 672.0 | 672.0 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.13                          |
| Aluminum-Base Metal/Alloys     | 0.07                          |
| Other Metal/Alloys             | 0.04                          |
| Other Inorganic Materials      | 1.24                          |
| Cellulosics                    | 2.20                          |
| Rubber                         | 0.26                          |
| Plastics                       | 15.30                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|--|
| Am-241  | 1.32E+02                            |  |  |  |  |  |
| Pu-238  | 9.66E-06                            |  |  |  |  |  |
| Pu-239  | 1.98E-01                            |  |  |  |  |  |
| Pu-240  | 9.86E-02                            |  |  |  |  |  |
| Pu-241  | 1.98E-01                            |  |  |  |  |  |
| Pu-242  | 7.54E-06                            |  |  |  |  |  |
| U-234   | 3.00E-04                            |  |  |  |  |  |
| U-235   | 9.66E-06                            |  |  |  |  |  |
| U-236   | 1.56E-07                            |  |  |  |  |  |
| U-238   | 9.08E-08                            |  |  |  |  |  |

# **Waste Stream Description**

This waste stream is defense related, contact handled TRU and is composed of heterogeneous debris with can include HEPA filters, plastic, protective clothing, metal, gloves, lead lined gloves, and sludges.

# **Management Comments**

Delta between Total # Projected and 200/yr for 16 yrs (3200) is because Total # Projected was calculated from given volume and 200/yr was from given comment. Tbrown 3/22/03

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID         WV-M005         Stream Name         TRU Filters           Local ID         N/A         Handling         RH         Final Wa | ste Form    | ilter    |         | Waste Matrix Code S5410                          | Activ                         | _       | ory Date 9/30/2002<br>ons as of CY N/A |
|---|-------------|----------|---------|--|-------------------------------|---------|--|
| Final Waste Form Descriptors  |             |          |         | Waste Material Parameters                        | , (611)                       |         | Radionuclides                          |
| Category: Defense Determination Pending Source: Facility/Equipmen Waste   | t Operation | and Main | tenance | Material Parameter                               | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)    |
| Waste Volume Detail (m3)  As-Generated Volumes  |             |          |         | Iron-Base Metal/Alloys                           | 0.00                          | Am-241  | (Carrie)                               |
| ContainerType   | Stored      | Proj.    | Total   | Aluminum-Base Metal/Alloys                       | 0.00                          | Cs-137  |  |
| 173.19ft3 Lead Shielded Box   | 14.7        | 0.0      |         | Other Metal/Alloys                               | 0.00                          | Pu-238  |  |
| 60 cubic ft. lead shielded box  | 23.8        | 93.5     |         | Other Inorganic Materials                        | 0.00                          | Pu-239  |  |
|   |             |          |         | Cellulosics                                      | 0.00                          | Sr-90   |  |
| 64 ft.3 Box   | 12.7        | 0.0      |         | Rubber   | 0.00                          |         |  |
| 70 cubic ft. Type A waste box   | 23.8        | 0.0      |         | Plastics   | 0.00                          |         |  |
| 84 ft.3 box   | 19.0        | 0.0      |         | Solidified, Inorganic Matrix                     | 0.00                          |         |  |
| 90 cubic ft. waste box  | 10.2        | 0.0      |         | Cement (Solidified)                              | 0.00                          |         |  |
| BOX / 28.7ft3   | 4.1         | 0.0      | 4.1     | Vitrified  | 0.00                          |         |  |
| Box / 48 cubic ft. Lead Shielded  | 8.3         | 0.0      | 8.3     | Solidified, Organic Matrix                       | 0.00                          |         |  |
| Box / Misc.   | 2.9         | 0.0      | 2.9     | Soils  | 0.00                          |         |  |
| As-Generated Total  | 119.4       | 93.5     | 212.9   | Packaging Material, Steel                        | 351.20                        |         |  |
|   |             |          |         | Packaging Material, Plastic                      | 0.40                          |         |  |
| Final Form Volumes  |             |          |         | Packaging Material, Lead                         | 0.00                          |         |  |
| ContainerType   | Stored      | Proj.    | Total   | Packaging Material, Steel Plug                   | 0.00                          |         |  |
| 55 Gallon Drum  | 59.7        | 46.4     | 106.1   | 13 3 2 20 10 10 10 10 10 10 10 10 10 10 10 10 10 |                               |         |  |
| Final Form Total  | 59.7        | 46.4     | 106.1   |  |                               |         |  |

### **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.

#### **Management Comments**

WVNS container ID numbers: 12-1513, 12-1514, TC-036, TC-042, TC-045, TC-073, TC-076, TC-086, 1994: TC-001, TC-043, 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-158, TC-159, TC-189, TC-190, TC138, TC-114, TC-115, TC-119, TC-126, TC-127, TC-128, TC-129, TC-130, TC-131, TC-171, TC-181, TC-182, TC-125, TC-183, TC-091, TC-197, TC-199

| HQ ID         WV-M007         Stream Name         TRU General Waste           Local ID         N/A         Handling         CH         Final Waste | ste Form    | N/A      |         | Waste Matrix Code U9999        | Activ                         |         | ory Date 9/30/2002<br>ons as of CY N/A |
|--|-------------|----------|---------|--------------------------------|-------------------------------|---------|--|
| Final Waste Form Descriptors   | _           |          |         | Waste Material Parameters      |                               | •       | Radionuclides                          |
| Category: Defense Determination Pending Source: Facility/Equipmen Waste  Waste Volume Detail (m3)  | t Operatior | and Main | tenance | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)    |
|  |             |          |         | Iron-Base Metal/Alloys         | 0.00                          | Am-241  |  |
| As-Generated Volumes   |             |          |         | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137  |  |
| ContainerType  | Stored      | Proj.    | Total   | Other Metal/Alloys             | 0.00                          | Sr-90   |  |
| 55-GALLON DRUM   | 10.8        | 0.0      | 10.8    | Other Inorganic Materials      | 1.00                          | L       |  |
| As-Generated Total   | 10.8        | 0.0      | 10.8    | Cellulosics                    | 0.00                          |         |  |
|  | ]           |          |         | Rubber                         | 0.00                          |         |  |
| Final Form Volumes   | T 1         |          |         | Plastics                       | 0.00                          |         |  |
| ContainerType  | Stored      | Proj.    | Total   | Solidified, Inorganic Matrix   | 0.00                          |         |  |
| 55 Gallon Drum   | 10.8        | 0.0      | 10.8    | Cement (Solidified)            | 0.00                          |         |  |
| Final Form Total   | 10.8        | 0.0      | 10.8    | Vitrified                      | 0.00                          |         |  |
|  | <u> </u>    |          |         | Solidified, Organic Matrix     | 0.00                          |         |  |
|  |             |          |         | Soils                          | 0.00                          |         |  |
|  |             |          |         | Packaging Material, Steel      | 131.00                        |         |  |
|  |             |          |         | Packaging Material, Plastic    | 37.00                         |         |  |
|  |             |          |         | Packaging Material, Lead       | 0.00                          |         |  |
|  |             |          |         | Packaging Material, Steel Plug | 0.00                          |         |  |

#### **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.

#### **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-040, TD-043, TD-184, TD-240, TD-268, TD-271, TD-294, TD-304, TD-304, TD-307, 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-634, TD-924, TD-926, TD-931, TD-432, TD-537, 6503.

0.00

Packaging Material, Steel Plug

#### Waste Stream ID: WV-M008

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-M008 Stream Name TRU Concrete   |             |              |           |                              |                               | Invent           | ory Date 12/31/1994                 |
|--|-------------|--------------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Solidified I | norganics | Waste Matrix Code S3150      | Activ                         | rity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors   |             |              |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense Determination Pending Source: Facility/Equipment Waste  Waste Volume Detail (m3) | t Operation | and Mair     | ntenance  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|  |             |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241           |                                     |
| As-Generated Volumes   |             |              |           | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137           |                                     |
| ContainerType  | Stored      | Proj.        | Total     | Other Metal/Alloys           | 0.00                          | Pu-238           |                                     |
| 55-GALLON DRUM   | 0.2         | 0.0          | 0.2       | Other Inorganic Materials    | 0.00                          | Pu-239           |                                     |
| As-Generated Total   | 0.2         | 0.0          | 0.2       | Cellulosics                  | 0.00                          | Sr-90            |                                     |
|  |             |              |           | Rubber                       | 0.00                          |                  | •                                   |
| Final Form Volumes   |             | -            |           | Plastics                     | 0.00                          |                  |                                     |
| ContainerType  | Stored      | Proj.        | Total     | Solidified, Inorganic Matrix | 1.00                          |                  |                                     |
| 55 Gallon Drum   | 0.2         | 0.0          | 0.2       | Cement (Solidified)          | 0.00                          |                  |                                     |
| Final Form Total   | 0.2         | 0.0          | 0.2       | Vitrified                    | 0.00                          |                  |                                     |
|  |             |              |           | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|  |             |              |           | Soils                        | 0.00                          |                  |                                     |
|  |             |              |           | Packaging Material, Steel    | 131.00                        |                  |                                     |
|  |             |              |           | Packaging Material, Plastic  | 37.00                         |                  |                                     |
|  |             |              |           | Packaging Material, Lead     | 0.00                          |                  |                                     |

#### **Waste Stream Description**

This waste stream consists of samples solidified with cement generated from the on-site A&PC laboratory.

#### **Management Comments**

WVNS TD-076

#### Waste Stream ID: WV-M010

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-M010 Stream Name TRU Spent Absorbents                           |             |              |           |                               |                               | Invent           | ory Date 9/30/2002                  |
|--|-------------|--------------|-----------|-------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Solidified I | norganics | Waste Matrix Code S3190       | Activ                         | vity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors   |             |              |           | Waste Material Parameters     |                               | Final Form       | Radionuclides                       |
| Category: Defense Determination Pending Source: Facility/Equipment Waste | t Operation | and Main     | tenance   | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)   |             |              |           | Iron-Base Metal/Alloys        | 0.00                          | Am-241           | (1111)                              |
| As-Generated Volumes   |             |              |           | Aluminum-Base Metal/Alloys    | 0.00                          | Cs-137           |                                     |
| ContainerType  | Stored      | Proj.        | Total     | Other Metal/Alloys            | 0.00                          | Pu-238           |                                     |
| 55-GALLON DRUM   | 0.8         | 0.0          | 0.8       | Other Inorganic Materials     | 0.00                          | Pu-239           |                                     |
| As-Generated Total   | 0.8         | 0.0          | 0.8       | Cellulosics                   | 0.00                          | Sr-90            |                                     |
| E. LE V.   |             |              |           | Rubber                        | 0.00                          |                  |                                     |
| Final Form Volumes   |             |              |           | Plastics                      | 0.00                          |                  |                                     |
| ContainerType  | Stored      | Proj.        | Total     | Solidified, Inorganic Matrix  | 0.00                          |                  |                                     |
| 55 Gallon Drum   | 0.8         | 0.0          | 0.8       | Cement (Solidified)           | 0.00                          |                  |                                     |
| Final Form Total   | 0.8         | 0.0          | 0.8       | Vitrified                     | 0.00                          |                  |                                     |
|  | <u> </u>    |              | I         | Solidified, Organic Matrix    | 0.00                          |                  |                                     |
|  |             |              |           | Soils                         | 0.00                          |                  |                                     |
|  |             |              |           | Packaging Material, Steel     | 131.00                        |                  |                                     |
|  |             |              |           | Packaging Material, Plastic   | 37.00                         |                  |                                     |
|  |             |              |           | Packaging Material, Lead      | 0.00                          |                  |                                     |
|  |             |              |           | Packaging Material Steel Plug | 0.00                          |                  |                                     |

#### **Waste Stream Description**

This waste stream consists of spent absorbents generated from site operations. The media absorbed is not known for this waste stream.

#### **Management Comments**

WVNS TD-707, WVNS TD-713,TD-937, TD-924

#### Waste Stream ID: WV-M013

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-M013 Stream Name Sweeping Compound                              |           |              |           |                                |                               | Invent            | ory Date 9/30/2002                  |
|--|-----------|--------------|-----------|--------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID N/A Handling CH Final Was                                       | ste Form  | Solidified I | norganics | Waste Matrix Code S3131        | Activ                         | ity Concentration | ons as of CY N/A                    |
| Final Waste Form Descriptors   |           |              |           | Waste Material Parameters      |                               | Final Form        | Radionuclides                       |
| Category: Defense Determination Pending Source: Facility/Equipment Waste | Operation | and Main     | itenance  | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)   |           |              |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241            |                                     |
| As-Generated Volumes   |           |              |           | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137            |                                     |
| ContainerType  | Stored    | Proj.        | Total     | Other Metal/Alloys             | 0.00                          | Pu-238            |                                     |
| 55-GALLON DRUM   | 1.9       | 0.0          | 1.9       | Other Inorganic Materials      | 1.00                          | Pu-239            |                                     |
| As-Generated Total   | 1.9       | 0.0          | 1.9       | Cellulosics                    | 0.00                          | Sr-90             |                                     |
| Ethal Farm Valoria   | •         | ',           |           | Rubber                         | 0.00                          |                   |                                     |
| Final Form Volumes   |           |              |           | Plastics                       | 0.00                          |                   |                                     |
| ContainerType  | Stored    | Proj.        | Total     | Solidified, Inorganic Matrix   | 0.00                          |                   |                                     |
| 55 Gallon Drum   | 1.9       | 0.0          | 1.9       | Cement (Solidified)            | 0.00                          |                   |                                     |
| Final Form Total   | 1.9       | 0.0          | 1.9       | Vitrified                      | 0.00                          |                   |                                     |
| •  |           |              |           | Solidified, Organic Matrix     | 0.00                          |                   |                                     |
|  |           |              |           | Soils                          | 0.00                          |                   |                                     |
|  |           |              |           | Packaging Material, Steel      | 131.00                        |                   |                                     |
|  |           |              |           | Packaging Material, Plastic    | 37.00                         |                   |                                     |
|  |           |              |           | Packaging Material, Lead       | 0.00                          |                   |                                     |
|  |           |              |           | Packaging Material, Steel Plug | 0.00                          |                   |                                     |

#### **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.

#### **Management Comments**

WVNS TD-006, WVNS TD-009, WVNS TD-011, WVNS TD-025, WVNS TD-042, WVNS TD-048, WVNS TD-122, TD-026

## Waste Stream ID: WV-M015

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-M015 Stream Name Chemical Process Cell G  | eneral Was | ite       |             |                              |                               | Invent           | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa  | ste Form   | leterogen | eous Debris | Waste Matrix Code S5420      | Activ                         | rity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense Determination Pending  Waste Volume Detail (m3)  Source: Remediation/D&D | Waste      |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|  |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241           |                                     |
| As-Generated Volumes   |            |           |             | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137           |                                     |
| ContainerType  | Stored     | Proj.     | Total       | Other Metal/Alloys           | 1.00                          | Sr-90            |                                     |
| 370 cubic foot waste box   | 10.5       | 0.0       |             | Other Inorganic Materials    | 1.00                          |                  |                                     |
| 70 cubic ft. Type A waste box  | 2.0        | 0.0       |             | Cellulosics                  | 0.00                          |                  |                                     |
| Drum / 55 gallon   | 0.6        | 0.0       | 0.6         | Rubber                       | 0.00                          |                  |                                     |
| As-Generated Total   | 13.1       | 0.0       | 13.1        | Plastics                     | 0.00                          |                  |                                     |
|  |            |           |             | Solidified, Inorganic Matrix | 0.00                          |                  |                                     |
| Final Form Volumes   |            | 1         |             | Cement (Solidified)          | 0.00                          |                  |                                     |
| ContainerType  | Stored     | Proj.     | Total       | Vitrified                    | 0.00                          |                  |                                     |
| 55 Gallon Drum   | 6.0        | 0.0       | 6.0         | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
| Final Form Total   | 6.0        | 0.0       | 6.0         | Soils                        | 0.00                          |                  |                                     |
| , <del></del>  |            |           |             | Packaging Material, Steel    | 435.00                        |                  |                                     |
|  |            |           |             | Packaging Material, Plastic  | 0.00                          |                  |                                     |

#### **Waste Stream Description**

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.

Packaging Material, Lead

Packaging Material, Steel Plug

465.00 0.00

#### **Management Comments**

WVNS container ID's for these boxes: TC-172, TD-173, TD-174, TD-175, 3E-1/7E-5/7E-8

A portion of this waste stream will be repackaged into 55-gallon drums.

| HQ ID    | WV-T001                                      | Stream Name Fissile Material - Solids |            |            |             |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|--|---------------------------------------|------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | N/A  | Handling CH Final Wa                  | ste Form ⊦ | Heterogene | eous Debris | Waste Matrix Code S5490      | Activi                        | ity Concentrati | ons as of CY N/A                    |
| Final Wa | ste Form Descrip                             | otors                                 |            |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Categ    | Defense Defense Defending  olume Detail (m3) | Source: Remediation/D&D               | Waste      |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|          | ` '  |                                       |            |            |             | Iron-Base Metal/Alloys       | 0.00                          | Pu-239          | 0.00E+00                            |
| As-Ge    | nerated Volumes                              |                                       |            |            |             | Aluminum-Base Metal/Alloys   | 0.00                          |                 |                                     |
| Conta    | inerType                                     |                                       | Stored     | Proj.      | Total       | Other Metal/Alloys           | 0.00                          |                 |                                     |
| Box / 7  | 70 cubic ft. Type A                          | Waste                                 | 15.8       | 0.0        | 15.8        | Other Inorganic Materials    | 1.00                          |                 |                                     |
| Box / 9  | 00 cubic ft. Waste                           |                                       | 15.3       | 0.0        | 15.3        | Cellulosics                  | 0.00                          |                 |                                     |
| Drum /   | 55 gallon                                    |                                       | 8.1        | 0.0        | 8.1         | Rubber                       | 0.00                          |                 |                                     |
| ļ        |  |                                       |            |            |             |                              |                               |                 |                                     |
|          |  | As-Generated Total                    | 39.3       | 0.0        | 39.3        | Plastics                     | 0.00                          |                 |                                     |
| Final I  | Val  |                                       |            |            |             | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| rinai i  | Form Volumes                                 |                                       |            |            |             | Cement (Solidified)          | 0.00                          |                 |                                     |

#### **Waste Stream Description**

ContainerType

55 Gallon Drum

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, piping, hoses, pumps, etc

Total

36.8

36.8

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

0.00

0.00

0.00

131.00 37.00

Stored

**Final Form Total** 

36.8

36.8

Proj.

0.0

0.0

#### **Management Comments**

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-497, TD-797, TD-456, TD-493, TD-559, TD-941, TD-1225, TD-1226, TD-1226, TD-1263, TD-1263, TD-1264, TD-1271, TD-1272, TD-1273, TD-1274, TD-1277, TD-1278, TD-1283, TD-1285, TD-1286, TD-1287, TD-1171, TD-1215. TC-032, TC-065, TC-969, TC-144, TC-151, TC-150, TC-104, TC-108, TC-201, TC-146, TC-198, TC-084.

## Waste Stream ID: WV-T004

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-T004 Stream Name Fissile Material - Other                |          |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|----------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa                                 | ste Form | N/A   |       | Waste Matrix Code U9999        | Activ                         | ity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors                                      |          |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense Determination Pending  Waste Volume Detail (m3) | Waste    |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |          |       |       | Iron-Base Metal/Alloys         | 0.00                          | Pu-238          |                                     |
| As-Generated Volumes  |          |       |       | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239          |                                     |
| ContainerType   | Stored   | Proj. | Total | Other Metal/Alloys             | 0.00                          |                 |                                     |
| 55-GALLON DRUM  | 0.6      | 0.0   | 0.6   | Other Inorganic Materials      | 0.00                          |                 |                                     |
| As-Generated Total  | 0.6      | 0.0   | 0.6   | Cellulosics                    | 0.00                          |                 |                                     |
|   | <u> </u> |       |       | Rubber                         | 0.00                          |                 |                                     |
| Final Form Volumes  |          |       |       | Plastics                       | 0.00                          |                 |                                     |
| ContainerType   | Stored   | Proj. | Total | Solidified, Inorganic Matrix   | 1.00                          |                 |                                     |
| 55 Gallon Drum  | 0.6      | 0.0   | 0.6   | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total  | 0.6      | 0.0   | 0.6   | Vitrified                      | 0.00                          |                 |                                     |
|   | <u> </u> |       |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |          |       |       | Soils                          | 0.00                          |                 |                                     |
|   |          |       |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|   |          |       |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|   |          |       |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |          |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream consists of liquid waste with associated fissile material generated from previous decontamination and decommissioning activities. The specific contents are unknown.

#### **Management Comments**

WVNS TD-478, WVNS TD-640, WVNS TC-1309

| HQ ID         WV-T006         Stream Name         TRU General Waste           Local ID         N/A         Handling         CH         Final Waste | -4- FI      | Jotorogon  | nous Dobrio | Woods Matriu Codal SE400                           | A a 4 in                      |         | ory Date 9/30/2002<br>ons as of CY N/A |
|--|-------------|------------|-------------|--|-------------------------------|---------|--|
|  | ste Form    | reterogeni | eous Debris | Waste Matrix Code S5490  Waste Material Parameters | Activ                         | -       | Radionuclides                          |
| Final Waste Form Descriptors  Category: Defense Determination Pending  Source: Facility/Equipment Waste  | t Operation | and Main   | tenance     | Material Parameters                                | Average<br>Density<br>(kg/m3) | Isotope | Typical Concentration (Ci/m3)          |
| Waste Volume Detail (m3)   |             |            |             | Iron-Base Metal/Alloys                             | 0.00                          | Am-241  |  |
| As-Generated Volumes   |             | T          |             | Aluminum-Base Metal/Alloys                         | 0.00                          | Cs-137  |  |
| ContainerType  | Stored      | Proj.      | Total       | Other Metal/Alloys                                 | 1.00                          | Sr-90   |  |
| 55-GALLON DRUM   | 10.4        | 10.2       | 20.6        | Other Inorganic Materials                          | 1.00                          | L       |  |
| As-Generated Total   | 10.4        | 10.2       | 20.6        | Cellulosics  | 0.00                          |         |  |
|  |             |            |             | Rubber   | 1.00                          |         |  |
| Final Form Volumes   |             |            |             | Plastics   | 1.00                          |         |  |
| ContainerType  | Stored      | Proj.      | Total       | Solidified, Inorganic Matrix                       | 0.00                          |         |  |
| 55 Gallon Drum   | 10.4        | 10.2       | 20.6        | Cement (Solidified)                                | 0.00                          |         |  |
| Final Form Total   | 10.4        | 10.2       | 20.6        | Vitrified  | 0.00                          |         |  |
|  |             |            |             | Solidified, Organic Matrix                         | 0.00                          |         |  |
|  |             |            |             | Soils  | 0.00                          |         |  |
|  |             |            |             | Packaging Material, Steel                          | 143.40                        |         |  |
|  |             |            |             | Packaging Material, Plastic                        | 17.00                         |         |  |
|  |             |            |             | Packaging Material, Lead                           | 0.00                          |         |  |
|  |             |            |             | Packaging Material, Steel Plug                     | 0.00                          |         |  |

#### **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.

#### **Management Comments**

WVNS 55-gallon drum Container ID #s for this waste stream are: 4581, 6224, TD-002, TD-024, 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-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-528, TD-529, TD-531, TD-553, TD-573, TD-585, TD-587, TD-587, TD-597, TD-597, TD-647, TD-648, TD-649, TD-659, TD-719, TD-937. For 1994

| HQ ID    | WV-T009 Stream Name TRU General Laboratory                                    | Waste      |            |             |                              |                               | Invent        | ory Date 9/30/2002                  |
|----------|---|------------|------------|-------------|------------------------------|-------------------------------|---------------|-------------------------------------|
| Local ID | N/A Handling CH Final Wa  | ste Form   | Heterogene | eous Debris | Waste Matrix Code S5420      | Activit                       | y Concentrati | ons as of CY N/A                    |
| Final Wa | ste Form Descriptors  |            |            |             | Waste Material Parameters    |                               | Final Form    | Radionuclides                       |
| Categ    | Defense Determination Pending  Source: Analytical Laborate Polyme Detail (m3) | tory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope       | Typical<br>Concentration<br>(Ci/m3) |
|          |   |            |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241        |                                     |
|          | nerated Volumes   |            |            |             | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137        |                                     |
|          | inerType  | Stored     | Proj.      | Total       | Other Metal/Alloys           | 0.00                          | Sr-90         |                                     |
| 55-GA    | LLON DRUM   | 10.0       | 21.2       | 31.2        | Other Inorganic Materials    | 1.00                          |               |                                     |
|          | As-Generated Total  | 10.0       | 21.2       | 31.2        | Cellulosics                  | 0.00                          |               |                                     |
| _        |   |            |            |             | Rubber                       | 0.00                          |               |                                     |
| Final F  | Form Volumes  |            |            |             | Plastics                     | 0.00                          |               |                                     |
| Conta    | inerType  | Stored     | Proj.      | Total       | Solidified, Inorganic Matrix | 0.00                          |               |                                     |
| 55 Gal   | lon Drum  | 10.0       | 21.2       | 31.2        | Cement (Solidified)          | 0.00                          |               |                                     |
|          | Final Form Total  | 10.0       | 21.2       | 31.2        | Vitrified                    | 0.00                          |               |                                     |
|          |   | L1         | <u>i</u>   | <u>_</u>    | Solidified, Organic Matrix   | 0.00                          |               |                                     |
|          |   |            |            |             | Soils                        | 0.00                          |               |                                     |

#### **Waste Stream Description**

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

#### **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-966, TD-969, TD-355, TD-1053, TD-1054, TD-1074, TD-1078, TD-1081, TD-1081, TD-1102, TD-1102, TD-11102, TD-1112, TD-1139, TD-1140, TD-1150, TD-1151, TD-1152, TD-1154, TD-1155, TD-1160, TD-1161, TD-1163, TD-1165, TD-1166, TD-1167, TD-1176, TD-1177, TD-1186, TD-1191, TD-1194, TD-1195, TD-1197, TD-1198, TD-1204, TD-1204, TD-1211, TD-1212, TD-1279.

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

131.00

37.00

0.00

0.00

Packaging Material, Steel Plug

#### Waste Stream ID: WV-T011

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-T011 Stream Name TRU Glove Boxes  |  |            |           |                              |                               | Invento           | ory Date 9/30/2002                  |
|--|--|------------|-----------|------------------------------|-------------------------------|-------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form                                     | Jncategori | zed Metal | Waste Matrix Code S5111      | Activ                         | ity Concentration | ons as of CY N/A                    |
| Final Waste Form Descriptors   |  |            |           | Waste Material Parameters    |                               | Final Form        | Radionuclides                       |
| Category: Defense Determination Pending  Waste Volume Detail (m3)  Source: Remediation/D&D | Waste  |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
|  |  |            |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241            |                                     |
| As-Generated Volumes   |  |            |           | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137            |                                     |
| ContainerType  | Stored                                       | Proj.      | Total     | Other Metal/Alloys           | 1.00                          | Sr-90             |                                     |
| 55-GALLON DRUM   | 0.2  | 0.0        | 0.2       | Other Inorganic Materials    | 0.00                          |                   |                                     |
| Box / Misc.  | 33.9   | 0.0        | 33.9      | Cellulosics                  | 0.00                          |                   |                                     |
| As-Generated Total   | 34.1   | 0.0        | 34.1      | Rubber                       | 0.00                          |                   |                                     |
|  | <u>.                                    </u> | l          |           | Plastics                     | 0.00                          |                   |                                     |
| Final Form Volumes   |  | -          |           | Solidified, Inorganic Matrix | 0.00                          |                   |                                     |
| ContainerType  | Stored                                       | Proj.      | Total     | Cement (Solidified)          | 0.00                          |                   |                                     |
| 55 Gallon Drum   | 10.2   | 0.0        | 10.2      | Vitrified                    | 0.00                          |                   |                                     |
| Final Form Total   | 10.2   | 0.0        | 10.2      | Solidified, Organic Matrix   | 0.00                          |                   |                                     |
|  | l I  |            | <u>_</u>  | Soils                        | 0.00                          |                   |                                     |
|  |  |            |           | Packaging Material, Steel    | 131.00                        |                   |                                     |
|  |  |            |           | Packaging Material, Plastic  | 37.00                         |                   |                                     |
|  |  |            |           | Packaging Material, Lead     | 0.00                          |                   |                                     |

#### **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.

#### **Management Comments**

WVNS Container ID number is TD-370, TC-191, TC-192, TC-194.

Waste will be size reduced and repackaged into 55-gallon drums at a future date.

| HQ ID    | WV-T014               | Stream Name Chemical Process Cell Ve | essels     |            |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|----------|-----------------------|--------------------------------------|------------|------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID | N/A                   | Handling RH Final Wa                 | ste Form ( | Jncategori | zed Metal | Waste Matrix Code S5111      | Activ                         |            | ons as of CY N/A                    |
| Final Wa | aste Form Descrip     | tors                                 |            |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Cate     | Defense De<br>Pending |                                      | Waste      |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|          |                       |                                      |            |            |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     |                                     |
| As-Ge    | enerated Volumes      |                                      |            |            |           | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     |                                     |
| Conta    | inerType              |                                      | Stored     | Proj.      | Total     | Other Metal/Alloys           | 1.00                          | Sr-90      |                                     |
| Variou   | ıs size metal waste   | boxes                                | 270.0      | 0.0        | 270.0     | Other Inorganic Materials    | 0.00                          |            |                                     |
|          |                       | As-Generated Total                   | 270.0      | 0.0        | 270.0     | Cellulosics                  | 0.00                          |            |                                     |
|          |                       |                                      |            |            |           | Rubber                       | 0.00                          |            |                                     |
| Final    | Form Volumes          |                                      |            |            |           | Plastics                     | 0.00                          |            |                                     |
| Conta    | inerType              |                                      | Stored     | Proj.      | Total     | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
| 55 Ga    | llon Drum             |                                      | 10.6       | 0.0        | 10.6      | Cement (Solidified)          | 0.00                          |            |                                     |
|          |                       | Final Form Total                     | 10.6       | 0.0        | 10.6      | Vitrified                    | 0.00                          |            |                                     |
|          |                       |                                      |            |            |           | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|          |                       |                                      |            |            |           | Soils                        | 0.00                          |            |                                     |

#### **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.

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

434.00

0.00 465.00

0.00

#### **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)

These tanks/vessels will be size reduced and repackaged into 55-gallon drums.

0.00

#### Waste Stream ID: WV-T016

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-T016 Stream Name Chemical Process Cell M                 |          |            |           |                              |                               |                 | ory Date 9/30/2002                  |
|---|----------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling RH Final Wa                                  | ste Form | Jncategori | zed Metal | Waste Matrix Code S5111      | Activ                         | ity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors                                      |          |            |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense Determination Pending  Waste Volume Detail (m3) | ) Waste  |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |          |            |           | Iron-Base Metal/Alloys       | 1.00                          | Am-241          |                                     |
| As-Generated Volumes  |          |            |           | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          |                                     |
| ContainerType   | Stored   | Proj.      | Total     | Other Metal/Alloys           | 0.00                          | Sr-90           |                                     |
| 432 cubic ft. 6ft by 6ft by 12 ft.                                | 146.8    | 0.0        | 146.8     | Other Inorganic Materials    | 0.00                          |                 |                                     |
| As-Generated Total  | 146.8    | 0.0        | 146.8     | Cellulosics                  | 0.00                          |                 |                                     |
| - · - · · ·   |          | '          |           | Rubber                       | 0.00                          |                 |                                     |
| Final Form Volumes  |          |            |           | Plastics                     | 0.00                          |                 |                                     |
| ContainerType   | Stored   | Proj.      | Total     | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| 55 Gallon Drum  | 8.5      | 0.0        | 8.5       | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 8.5      | 0.0        | 8.5       | Vitrified                    | 0.00                          |                 |                                     |
|   |          |            |           | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |          |            |           | Soils                        | 0.00                          |                 |                                     |
|   |          |            |           | Packaging Material, Steel    | 434.00                        |                 |                                     |
|   |          |            |           | Packaging Material, Plastic  | 0.00                          |                 |                                     |
|   |          |            |           | Packaging Material Lead      | 465.00                        |                 |                                     |

#### **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.

Packaging Material, Steel Plug

#### **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

These containers will be size reduced and repackaged into 55-gallon drums at a later date.

0.00

Packaging Material, Steel Plug

#### Waste Stream ID: WV-T017

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID WV-T017 Stream Name Spent Filter Media  |             |              |           |                              |                               | Invent           | ory Date 9/30/2002                  |
|---|-------------|--------------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form    | Solidified I | norganics | Waste Matrix Code S3115      | Activ                         | rity Concentrati | ons as of CY N/A                    |
| Final Waste Form Descriptors  |             |              |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense Determination Pending Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Mair     | tenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|   |             |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241           |                                     |
| As-Generated Volumes  |             |              |           | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137           |                                     |
| ContainerType   | Stored      | Proj.        | Total     | Other Metal/Alloys           | 0.00                          | Pu-238           |                                     |
| 80 cubic foot HIC   | 2.3         | 0.0          | 2.3       | Other Inorganic Materials    | 1.00                          | Pu-239           |                                     |
| As-Generated Total  | 2.3         | 0.0          | 2.3       | Cellulosics                  | 0.00                          | Sr-90            |                                     |
|   |             |              |           | Rubber                       | 0.00                          |                  |                                     |
| Final Form Volumes  |             |              |           | Plastics                     | 0.00                          |                  |                                     |
| ContainerType   | Stored      | Proj.        | Total     | Solidified, Inorganic Matrix | 0.00                          |                  |                                     |
| 55 Gallon Drum  | 2.5         | 0.0          | 2.5       | Cement (Solidified)          | 0.00                          |                  |                                     |
| Final Form Total  | 2.5         | 0.0          | 2.5       | Vitrified                    | 0.00                          |                  |                                     |
|   | <u> </u>    | i            | 1         | Solidified, Organic Matrix   | 0.00                          |                  |                                     |
|   |             |              |           | Soils                        | 0.00                          |                  |                                     |
|   |             |              |           | Packaging Material, Steel    | 154.00                        |                  |                                     |
|   |             |              |           | Packaging Material, Plastic  | 0.00                          |                  |                                     |
|   |             |              |           | Packaging Material, Lead     | 0.00                          |                  |                                     |

#### **Waste Stream Description**

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.

#### **Management Comments**

HIC-A 1, 80 cubic foot High Integrity Container

HIC filter media will be repackaged into 55-gallon drums at a later date.

| HQ ID N/A Stream Name Head End Cell Debris                      |          |           |             |                              |                               | Inventory Date 9/30/2002        |
|---|----------|-----------|-------------|------------------------------|-------------------------------|---------------------------------|
| _ocal ID N/A Handling RH Final Wa                               | ste Form | Heterogen | eous Debris | Waste Matrix Code N/A        | Activ                         | ity Concentrations as of CY N/A |
| Final Waste Form Descriptors                                    |          |           |             | Waste Material Parameters    |                               | No Final Form                   |
| Category: Defense Determination Pending Source: Remediation/D&D | Waste    |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste Volume Detail (m3)  |          |           |             | Iron-Base Metal/Alloys       | 0.00                          |                                 |
| As-Generated Volumes  |          |           |             | Aluminum-Base Metal/Alloys   | 0.00                          |                                 |
| ContainerType   | Stored   | Proj.     | Total       | Other Metal/Alloys           | 1.00                          |                                 |
| Box / 344ft3  | 19.5     | 0.0       | 19.5        | Other Inorganic Materials    | 0.00                          |                                 |
| Box / Misc.   | 146.9    | 11.3      | 158.2       | Cellulosics                  | 0.00                          |                                 |
| Drum / 55 gallon with 30 gallon drum inside                     | 5.0      | 25.6      | 30.6        | Rubber                       | 0.00                          |                                 |
| As Compared Total   | 171.4    | 36.9      | 208.3       | Plastics                     | 0.00                          |                                 |
| As-Generated Total  | 171.4    | 30.9      | 206.3       | Solidified, Inorganic Matrix | 0.00                          |                                 |
| Final Form Volumes  |          |           |             | Cement (Solidified)          | 0.00                          |                                 |
| ContainerType   | Stored   | Proj.     | Total       | Vitrified                    | 0.00                          |                                 |
| 55 Gallon Drum  | 54.1     | 25.6      | 79.7        | Solidified, Organic Matrix   | 0.00                          |                                 |
| Final Farm Tatal  | 54.1     | 25.6      | 79.7        | Soils                        | 0.00                          |                                 |
| Final Form Total  | 34.1     | 23.0      | 79.7        | Packaging Material, Steel    | 131.00                        |                                 |
|   |          |           |             | Packaging Material, Plastic  | 0.00                          |                                 |
|   |          |           |             | Packaging Material, Lead     | 0.00                          |                                 |

#### **Waste Stream Description**

This waste stream consists of debris generated as a result of decommisioning and decontaminating of head end cells. These cells were used to prep the fuel for reprocessing. Waste from the waste tank farm is also included.

0.00

Packaging Material, Steel Plug

#### **Management Comments**

SP-138, SP-144, HEC-021, HEC-023, HEC-024, HEC-027, HEC-028, HEC-029, HEC-030, HEC-031, HEC-034, HEC-035, HEC-039, HEC-041, various others.

| HQ ID    | N/A              | Stream Nan   | e FRS P | ool Filters             |                           |         | Inventory Date 9/30/2002           |
|----------|------------------|--------------|---------|-------------------------|---------------------------|---------|------------------------------------|
| Local ID | N/A              | Handlir      | g RH    | Final Waste Form Filter | Waste Matrix Code S5410   | Ac      | tivity Concentrations as of CY N/A |
| Final Wa | ste Form Descrip | otors        |         |                         | Waste Material Parameters |         | No Final Form                      |
| Categ    | ory: Defense De  | etermination | Source: | Remediation/D&D Waste   |                           | Average | Radionuclides Provided             |

## Waste Volume Detail (m3)

Pending

| As-Generated Volumes     |                    |        |       |       |
|--------------------------|--------------------|--------|-------|-------|
| ContainerType            |                    | Stored | Proj. | Total |
| Box / 90 cubic ft. Waste |                    | 0.0    | 15.3  | 15.3  |
|                          | As-Generated Total | 0.0    | 15.3  | 15.3  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 20.6  | 20.6  |
|                    |        |       |       |

Final Form Total 0.0 20.6 20.6

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Waste Stream Description**

This waste stream consists of cartridge filters stored in sheild boxes

#### **Management Comments**

| HQ ID    | N/A              | Stream Name | PPC/XC | 22 PPE and DAW       |         |              |        |          | Inventory Date       | 9/30/   | 2002 |
|----------|------------------|-------------|--------|----------------------|---------|--------------|--------|----------|----------------------|---------|------|
| Local ID | N/A              | Handling    | СН     | Final Waste Form N/A | Waste M | latrix Code  | N/A    | Activity | Concentrations as of | CY      | N/A  |
| Final Wa | oto Form Docorin | toro        |        |                      | Wasta M | otorial Bara | motoro |          | No Final For         | <b></b> |      |

#### Final Waste Form Descriptors

Source: Remediation/D&D Waste Category: Defense Determination Pending

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.0    | 226.7 | 226.7 |
| •                    |                    | -      |       |       |
|                      | As-Generated Total | 0.0    | 226.7 | 226.7 |

| Stored | Proj.      | Total |
|--------|------------|-------|
| 0.0    | 226.7      | 226.7 |
|        | Stored 0.0 |       |

Final Form Total 226.7 226.7

| Average<br>Density<br>(kg/m3) |
|-------------------------------|
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 1.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 131.00                        |
| 0.00                          |
| 0.00                          |
| 0.00                          |
|                               |

No Final Form **Radionuclides Provided** 

#### **Waste Stream Description**

This waste stream consists of PPE, piping, vessels, hoses, and other DAW.

#### **Management Comments**

HQ ID N/A Stream Name RHWF Process Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations as of CY N/A

**Final Waste Form Descriptors** 

Category: Defense Determination Pending Source: Remediation/D&D Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.0    | 80.7  | 80.7  |
| •                    | As-Generated Total | 0.0    | 80.7  | 80.7  |

| d Proj.  | Total |
|----------|-------|
| 0.0 80.7 | 80.7  |
|          | 1     |

**Final Form Total** 0.0 80.7 80.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 10.00                         |
| Other Inorganic Materials      | 10.00                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

No Final Form Radionuclides Provided

**Waste Stream Description** 

This waste consists of misc. metals, filters and plastics.

**Management Comments** 

#### Waste Stream ID: WV-W024

# Appendix I TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID WV-W024 Stream Name TRU Lead  Local ID NA Handling CH Final Wa                        | ste Form    | Lead/Cadr | nium Metal | Waste Matrix Code S5112        | Activ                         |         | ory Date 9/30/2002<br>ons as of CY N/A |
|---|-------------|-----------|------------|--------------------------------|-------------------------------|---------|--|
| Final Waste Form Descriptors  |             |           |            | Waste Material Parameters      |                               |         | Radionuclides                          |
| Category: Defense Determination Pending Source: Discarding Excess  Waste Volume Detail (m3) | s/Expired N | Materials |            | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)    |
|   |             |           |            | Iron-Base Metal/Alloys         | 0.00                          | Am-241  | <u>"</u>                               |
| As-Generated Volumes  |             | T         |            | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137  |  |
| ContainerType   | Stored      | Proj.     | Total      | Other Metal/Alloys             | 0.00                          | Sr-90   |  |
| 55-GALLON DRUM  | 1.7         |           |            | Other Inorganic Materials      | 0.00                          |         |  |
| BOX / 444 cubic ft  | 12.6        |           |            | Cellulosics                    | 0.00                          |         |  |
| Box / 90 cubic ft. Waste  | 5.1         | 0.0       | 5.1        | Rubber                         | 0.00                          |         |  |
| As-Generated Total  | 19.3        | 0.0       | 19.3       | Plastics                       | 0.00                          |         |  |
|   |             | l .       |            | Solidified, Inorganic Matrix   | 0.00                          |         |  |
| Final Form Volumes  | r 1         |           |            | Cement (Solidified)            | 0.00                          |         |  |
| ContainerType   | Stored      | Proj.     | Total      | Vitrified                      | 0.00                          |         |  |
| 55 Gallon Drum  | 19.3        | 0.0       | 19.3       | Solidified, Organic Matrix     | 0.00                          |         |  |
| Final Form Total  | 19.3        | 0.0       | 19.3       | Soils                          | 0.00                          |         |  |
|   |             |           | <u> </u>   | Packaging Material, Steel      | 131.00                        |         |  |
|   |             |           |            | Packaging Material, Plastic    | 37.00                         |         |  |
|   |             |           |            | Packaging Material, Lead       | 0.00                          |         |  |
|   |             |           |            | Packaging Material, Steel Plug | 0.00                          |         |  |

#### **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 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.

#### **Management Comments**

WVNS Container ID #s for this waste stream are: TC-135D, TC-136, TC-193, TD-1070, TD-1168, TD-1228, TD-1232, TD-1259, TD-1282, TD-1316, TD-1361.

| HQ ID WV-Z001 Stream Name West Valley Buried TRU    | Waste     |       |        |                                |                               | Inventory Date 9/30/2002        |
|---|-----------|-------|--------|--------------------------------|-------------------------------|---------------------------------|
| Local ID N/A Handling U Final W                     | aste Form | V/A   |        | Waste Matrix Code N/A          | Activ                         | ity Concentrations as of CY N/A |
| Final Waste Form Descriptors                        |           |       |        | Waste Material Parameters      |                               | No Final Form                   |
| Category: Defense Determination Pending Source: N/A |           |       |        | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste Volume Detail (m3)                            |           |       |        | Iron-Base Metal/Alloys         | 0.00                          |                                 |
| As-Generated Volumes                                |           |       |        | Aluminum-Base Metal/Alloys     | 0.00                          |                                 |
| ContainerType                                       | Stored    | Proj. | Total  | Other Metal/Alloys             | 0.00                          |                                 |
| Not contained                                       | 1353.0    | 0.0   | 1353.0 | Other Inorganic Materials      | 0.00                          |                                 |
| As-Generated Total                                  | 1353.0    | 0.0   | 1353.0 | Cellulosics                    | 0.00                          |                                 |
| As-Generated Total                                  | 1333.0    | 0.0   | 1333.0 | Rubber                         | 0.00                          |                                 |
| Final Form Volumes                                  |           |       |        | Plastics                       | 0.00                          |                                 |
| ContainerType                                       | Stored    | Proj. | Total  | Solidified, Inorganic Matrix   | 0.00                          |                                 |
|   | 0.0       | 0.0   | 0.0    | Cement (Solidified)            | 0.00                          |                                 |
| Final Form Total                                    | 0.0       | 0.0   | 0.0    | Vitrified                      | 0.00                          |                                 |
| Filial Fortil Total                                 | 0.0       | 0.0   | 0.0    | Solidified, Organic Matrix     | 0.00                          |                                 |
|   |           |       |        | Soils                          | 0.00                          |                                 |
|   |           |       |        | Packaging Material, Steel      | 0.00                          |                                 |
|   |           |       |        | Packaging Material, Plastic    | 0.00                          |                                 |
|   |           |       |        | Packaging Material, Lead       | 0.00                          |                                 |
|   |           |       |        | Packaging Material, Steel Plug | 0.00                          |                                 |

**Waste Stream Description** 

N/A

**Management Comments** 

# APPENDIX J WASTE STREAM PROFILES – WIPP

The following waste stream profiles contain information on waste streams that are being considered for shipment to WIPP at this time and are expected to meet the Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (CH-WAC; DOE 2002) as of the inventory date, September 30, 2002. The TRU waste sites that have reported WIPP waste streams are:

| Argonne National Laboratory – East                      | AE |
|---|----|
| Argonne National Laboratory – West                      | AW |
| Battelle Columbus Laboratory                            | BC |
| Bettis Atomic Power Laboratory                          | BT |
| Energy Technology Engineering Center                    | ET |
| Idaho National Engineering and Environmental Laboratory | IN |
| Knolls Atomic Power Laboratory – Schenectady            | KA |
| Knolls Atomic Power Laboratory – Nuclear Fuels Service  | KN |
| Los Alamos National Laboratory                          | LA |
| Lawrence Livermore National Laboratory                  | LL |
| U. S. Army Material Command                             | MC |
| University of Missouri Research Reactor                 | MU |
| Nevada Test Site  | NT |
| Oak Ridge National Laboratory                           | OR |
| Paducah Gaseous Diffusion Plant                         | PA |
| Rocky Flats Environmental Technology Site               | RF |
| Hanford (Richland)                                      | RL |
| Hanford (River Protection)                              | RP |
| Sandia National Laboratories (Albuquerque)              | SA |
| Savannah River Site                                     | SR |
|   |    |

#### **REFERENCES**

Department of Energy (DOE). 2002. Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 0, DOE/WIPP-02-3122, May 17, 2002.

Appendix J 1

4.37E-04

1.64E-02

9.00E-07

8.05E-09

3.96E-07

6.00E-04

5.78E-05

1.80E-05

3.82E-07

3.18E-04

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                   |   | .,          |       |       |                            |                               |         |   |
|-------------------|---|-------------|-------|-------|----------------------------|-------------------------------|---------|---|
| HQ ID<br>Local ID | AE-T001 Stream Name ANL-E Contact-Handled AECHDM Handling CH Final Wa | Mixed Debi  |       | ole   | Waste Matrix Code S5420    | Activity Co                   |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Wa          | ste Form Descriptors  | L           |       |       | Waste Material Parameters  | ·                             |         | Radionuclides                           |
| Categ<br>Waste Vo | ory: Defense TRU Waste Source: R&D/R&D Laborate Detail (m3)           | itory Waste | •     |       | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Ge             | nerated Volumes   |             |       |       | Iron-Base Metal/Alloys     | 77.00                         | Am-241  | 3.61E-01                                |
|                   | nerType   | Stored      | Proj. | Total | Aluminum-Base Metal/Alloys | 8.68                          | Cs-137  | 2.32E-02                                |
|                   | 55-gallon   | 90.1        | 66.1  | 156.2 | Other Metal/Alloys         | 23.30                         | Np-237  | 4.28E-03                                |
|                   |   |             |       |       | Other Inorganic Materials  | 4.78                          | Pu-238  | 7.76E-02                                |
|                   | As-Generated Total  | 90.1        | 66.1  | 156.2 | Cellulosics                | 5.99                          | Pu-239  | 9.11E-01                                |
| Final F           | Form Volumes  |             |       |       | Rubber                     | 7.32                          | Pu-240  | 5.38E-01                                |
|                   | nerType   | Stored      | Proj. | Total | Plastics                   | 63.40                         | Pu-241  | 1.04E+00                                |

156.2

156.2

Solidified, Inorganic Matrix

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Cement (Solidified)

Vitrified

Soils

1.64

0.00

0.00

0.42

0.00

0.00

0.00

0.00

131.00

Pu-242

Sr-90

Th-229

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## Waste Stream Description

55 Gallon Drum

Waste Stream ID:

AE-T001

Organic debris, plastic,rubber,paper, cloth. Waste stream identifiers previously referred to as AE-W041 and AE-W042 are now included with waste stream AE-T001.

90.

90.1

66.

66.1

#### **Management Comments**

Waste stream identifiers previously referred to as AE-W041 and AE-W042 are now included with waste stream AE-T001.

Final Form Total

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID AE-T003 Stream Name ANL-E Contact-Handled Mixed Homogenous Solids Inventory Date 9/30/2002

Local ID AECHHM Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3110 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

AE-T003

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55-gallon     | 23.1   | 13.3  | 36.4  |
| Drum / 85 gallon     | 1.0    | 0.0   | 1.0   |
| As-Generated Total   | 24.1   | 13.3  | 37.4  |

| Final Form Volumes |        |       |       |  |  |  |
|--------------------|--------|-------|-------|--|--|--|
| ContainerType      | Stored | Proj. | Total |  |  |  |
| 55 Gallon Drum     | 23.1   | 13.3  | 36.4  |  |  |  |
| 85 gallon drum     | 1.0    | 0.0   | 1.0   |  |  |  |
|                    |        |       |       |  |  |  |

**Final Form Total** 24.1 13.3 37.4

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 101.00                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 216.30                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 129.99                        |
| Packaging Material, Plastic    | 36.74                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |               |  |  |  |
|--------------------------|---------------|--|--|--|
|                          | Typical       |  |  |  |
|                          | Concentration |  |  |  |
| Isotope                  | (Ci/m3)       |  |  |  |
| Am-241                   | 1.35E-01      |  |  |  |
| Cs-137                   | 2.82E-04      |  |  |  |
| Np-237                   | 6.21E-04      |  |  |  |
| Pu-238                   | 4.56E-02      |  |  |  |
| Pu-239                   | 1.24E+00      |  |  |  |
| Pu-240                   | 4.79E-01      |  |  |  |
| Pu-241                   | 2.52E+00      |  |  |  |
| Pu-242                   | 1.34E-05      |  |  |  |
| Sr-90                    | 7.17E-04      |  |  |  |
| Th-229                   | 5.37E-07      |  |  |  |
| Th-230                   | 1.55E-10      |  |  |  |
| Th-232                   | 6.89E-17      |  |  |  |
| U-233                    | 4.09E-04      |  |  |  |
| U-234                    | 2.17E-06      |  |  |  |
| U-235                    | 3.24E-06      |  |  |  |
| U-236                    | 1.99E-07      |  |  |  |
| U-238                    | 7.14E-05      |  |  |  |

#### **Waste Stream Description**

Solidified inorganic liquid waste from evaporator bottom. Waste stream identifiers previously referred to as AE-W038, AE-W039 and AE-W040 are now included with waste stream AE-T001.

#### **Management Comments**

Waste stream identifiers previously referred to as AE-W038, AE-W039 and AE-W040 are now included with waste stream AE-T001.

TB assumed all projected waste will be in 55 gallon drums.

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name RH TRU Inventory Date 9/30/2002 HQ ID N/A N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 2002 Local ID **Final Waste Form Descriptors** Waste Material Parameters **Final Form Radionuclides** Source: R&D/R&D Laboratory Waste Category: N/A

Total

Waste Volume Detail (m3)

ContainerType

RH Canister

Waste Stream ID:

AE-T009

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 30 gallon     |                    | 5.8    | 39.4  | 45.2  |
|                      | As-Generated Total | 5.8    | 39.4  | 45.2  |
| Final Form Volumes   |                    |        |       |       |

|                  | 15.1 | 104.1 | 119.3 |
|------------------|------|-------|-------|
|                  |      |       |       |
| Final Form Total | 15.1 | 104.1 | 119.3 |

Stored

Proj.

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 61.60                         |
| Aluminum-Base Metal/Alloys     | 18.60                         |
| Other Metal/Alloys             | 79.60                         |
| Other Inorganic Materials      | 10.80                         |
| Cellulosics                    | 0.90                          |
| Rubber                         | 9.00                          |
| Plastics                       | 21.10                         |
| Solidified, Inorganic Matrix   | 10.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 13.20                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 481.00                        |
| Packaging Material, Plastic    | 15.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 8.44E-02                            |  |  |
| Am-243                   | 2.65E-07                            |  |  |
| Cm-244                   | 1.56E-03                            |  |  |
| Cs-137                   | 3.81E-01                            |  |  |
| Np-237                   | 1.39E-05                            |  |  |
| Pu-238                   | 7.68E-02                            |  |  |
| Pu-239                   | 1.47E-01                            |  |  |
| Pu-240                   | 3.21E-02                            |  |  |
| Pu-241                   | 2.49E-01                            |  |  |
| Sr-90                    | 2.15E-01                            |  |  |
| Th-229                   | 3.90E-09                            |  |  |
| Th-230                   | 8.25E-10                            |  |  |
| Th-232                   | 1.72E-17                            |  |  |
| U-233                    | 1.54E-06                            |  |  |
| U-234                    | 6.56E-06                            |  |  |
| U-235                    | 1.30E-06                            |  |  |
| U-236                    | 2.57E-08                            |  |  |
| U-238                    | 5.10E-07                            |  |  |
|                          |                                     |  |  |

#### **Waste Stream Description**

This waste is generated primarily as a result of fuel research activities.

#### **Management Comments**

# Waste Stream ID: AW-N026.82 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID AW-W026 Stream Name ALHC UPGRADE DECON DEBRIS Inventory Date 9/30/2002
Local ID CH-ANL-505T Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |         |      |       |       |
|----------------------|---------|------|-------|-------|
| ContainerType        | St      | ored | Proj. | Total |
| Drum / 55 gallon     |         | 0.2  | 0.0   | 0.2   |
| As-Generate          | d Total | 0.2  | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 236.00                        |
| Aluminum-Base Metal/Alloys     | 42.00                         |
| Other Metal/Alloys             | 7.00                          |
| Other Inorganic Materials      | 52.00                         |
| Cellulosics                    | 81.00                         |
| Rubber                         | 18.00                         |
| Plastics                       | 68.00                         |
| Solidified, Inorganic Matrix   | 5.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.00                          |
| Soils                          | 3.00                          |
| Packaging Material, Steel      | 108.00                        |
| Packaging Material, Plastic    | 59.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 1.46E+00                            |
| Sr-90   | 7 28F+00                            |

#### **Waste Stream Description**

Paint scraping debris from analytical lab hot cell refurbishment.

#### **Management Comments**

This is a TRU waste packaged to meet the WIPP WAC. Particulate materials were solidified for immobilization.

## Waste Stream ID: AW-N027.531

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID AW-W027 Stream Name LEAD CONTAMINATED                                      | WASTE    |           |       |                                |                               | Invent         | ory Date 9/30/2002                  |
|--|----------|-----------|-------|--------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID CH-ANL-142T Handling CH Final Wa  | ste Form | Combustib | le    | Waste Matrix Code S5311        | Activity Cor                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |          |           |       | Waste Material Parameters      |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: Analytical Lab glow Waste Volume Detail (m3) | veboxes  |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |           |       | Iron-Base Metal/Alloys         | 109.00                        | Am-241         | 2.90E-03                            |
| ContainerType  | Stored   | Proj.     | Total | Aluminum-Base Metal/Alloys     | 0.20                          | Np-237         | 9.38E-10                            |
| 55 Gallon Drum   | 0.8      | 4.2       | 5.0   | Other Metal/Alloys             | 10.00                         | Pu-238         | 4.30E+00                            |
|  |          |           |       | Other Inorganic Materials      | 8.00                          | Pu-239         | 3.26E+00                            |
| As-Generated Total   | 8.0      | 4.2       | 5.0   | Cellulosics                    | 191.00                        | Pu-240         | 1.97E-02                            |
| Final Form Volumes   |          |           |       | Rubber                         | 30.00                         | Pu-241         | 1.74E-02                            |
| ContainerType  | Stored   | Proj.     | Total | Plastics                       | 59.00                         | Pu-242         | 2.48E-07                            |
| 55 Gallon Drum   | 5.4      | 4.4       | 9.8   | Solidified, Inorganic Matrix   | 0.00                          | Th-229         | 2.84E-11                            |
| 00 04.10.11 214.11   |          |           |       | Cement (Solidified)            | 0.00                          | Th-230         | 2.50E-10                            |
| Final Form Total   | 5.4      | 4.4       | 9.8   | Vitrified                      | 0.00                          | Th-232         | 1.44E-20                            |
|  |          |           |       | Solidified, Organic Matrix     | 0.00                          | U-233          | 3.03E-07                            |
|  |          |           |       | Soils                          | 0.00                          | U-234          | 3.39E-05                            |
|  |          |           |       | Packaging Material, Steel      | 108.00                        | U-235          | 2.08E-06                            |
|  |          |           |       | Packaging Material, Plastic    | 59.00                         | U-236          | 5.84E-10                            |
|  |          |           |       | Packaging Material, Lead       | 0.00                          | U-238          | 7.73E-09                            |
|  |          |           |       | Packaging Material, Steel Plug | 0.00                          |                |                                     |
|  |          |           |       |                                |                               |                |                                     |

#### **Waste Stream Description**

This waste stream is typically lead lined gloves removed from casting laboratory glove box.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID AW-W031 Stream Name FCF (RH) MISCELLANEOUS TRU WASTE

Local ID CH-ANL-540 Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

AW-T031.1322

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |       |        |       |       |
|----------------------|-------|--------|-------|-------|
| ContainerType        |       | Stored | Proj. | Total |
|                      |       | 0.0    | 0.0   | 0.0   |
| As-Generated         | Total | 0.0    | 0.0   | 0.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 26.7  | 26.7  |
|                    | Final Form Total | 0.0    | 26.7  | 26.7  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 179.90                        |
| Aluminum-Base Metal/Alloys     | 32.30                         |
| Other Metal/Alloys             | 5.40                          |
| Other Inorganic Materials      | 40.00                         |
| Cellulosics                    | 62.20                         |
| Rubber                         | 13.70                         |
| Plastics                       | 51.80                         |
| Solidified, Inorganic Matrix   | 3.60                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.60                          |
| Soils                          | 2.30                          |
| Packaging Material, Steel      | 511.00                        |
| Packaging Material, Plastic    | 21.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 2.33E-02                            |  |  |
| Am-243                   | 1.14E-05                            |  |  |
| Cm-244                   | 9.38E-05                            |  |  |
| Cs-137                   | 2.94E+01                            |  |  |
| Np-237                   | 3.69E-05                            |  |  |
| Pu-238                   | 2.52E-02                            |  |  |
| Pu-239                   | 6.58E-01                            |  |  |
| Pu-240                   | 4.16E-01                            |  |  |
| Pu-241                   | 6.92E-01                            |  |  |
| Pu-242                   | 1.16E-05                            |  |  |
| Sr-90                    | 2.58E+01                            |  |  |
| Th-229                   | 5.81E-12                            |  |  |
| Th-230                   | 7.41E-09                            |  |  |
| Th-232                   | 9.95E-16                            |  |  |
| U-233                    | 1.08E-08                            |  |  |
| U-234                    | 1.38E-04                            |  |  |
| U-235                    | 4.48E-06                            |  |  |
| U-236                    | 3.39E-06                            |  |  |
| U-238                    | 3.66E-07                            |  |  |

#### **Waste Stream Description**

Fuel ConditioningFacility (FCF) Remote-handled (RH) Radioactive Transuranic Miscellaneous waste: hot laboratory waste, filters, etc. This waste has not been generated yet.

#### **Management Comments**

#### Appendix J AW-T033.1325 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name ANL-752 TRU WASTE HQ ID AW-W033 Inventory Date 9/30/2002 CH-ANL-542 СН Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters** Final Form Radionuclides Category: Defense TRU Waste Source: Analytical Laboratory Waste

| Waste Volume | Detail | (m3) |
|--------------|--------|------|
|--------------|--------|------|

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 25.2  | 25.6  |
|                      | As-Generated Total | 0.4    | 25.2  | 25.6  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 25.2  | 25.6  |
|                      |                    |        |       | 25.6  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 236.00                        |
| Aluminum-Base Metal/Alloys     | 42.00                         |
| Other Metal/Alloys             | 7.00                          |
| Other Inorganic Materials      | 52.00                         |
| Cellulosics                    | 81.00                         |
| Rubber                         | 18.00                         |
| Plastics                       | 68.00                         |
| Solidified, Inorganic Matrix   | 5.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.00                          |
| Soils                          | 3.00                          |
| Packaging Material, Steel      | 108.00                        |
| Packaging Material, Plastic    | 59.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                   | 2.90E-03                            |  |  |  |  |  |
| Np-237                   | 9.38E-10                            |  |  |  |  |  |
| Pu-238                   | 4.30E+00                            |  |  |  |  |  |
| Pu-239                   | 3.26E+00                            |  |  |  |  |  |
| Pu-240                   | 1.97E-02                            |  |  |  |  |  |
| Pu-241                   | 1.74E-02                            |  |  |  |  |  |
| Pu-242                   | 2.48E-07                            |  |  |  |  |  |
| Th-229                   | 2.84E-11                            |  |  |  |  |  |
| Th-230                   | 2.50E-10                            |  |  |  |  |  |
| Th-232                   | 1.44E-20                            |  |  |  |  |  |
| U-233                    | 3.03E-07                            |  |  |  |  |  |
| U-234                    | 3.39E-05                            |  |  |  |  |  |
| U-235                    | 2.08E-06                            |  |  |  |  |  |
| U-236                    | 5.84E-10                            |  |  |  |  |  |
| U-238                    | 7.73E-09                            |  |  |  |  |  |
|                          |                                     |  |  |  |  |  |

#### **Waste Stream Description**

Transuranic waste generated from plutonium casting laboratory (PCL) and Analytical laboratory (AL) Hot cell operations. This waste is typically packged in 55-gallon drums.

#### **Management Comments**

|          |                  | _           |       |                                     |      |                           |                    | _              |                          |
|----------|------------------|-------------|-------|-------------------------------------|------|---------------------------|--------------------|----------------|--------------------------|
| HQ ID    | AW-W012          | Stream Name | ELECT | TROREFINER SALT                     |      |                           |                    | Inventor       | y Date 9/30/2002         |
| Local ID | CH-ANL-218T      | Handling    | RH    | Final Waste Form Solidified Inorgar | nics | Waste Matrix Code S3141   | Activity Cond      | entrations Dec | ayed to CY 2002          |
| Final Wa | ste Form Descrip | tors        |       |                                     |      | Waste Material Parameters |                    | Final Form R   | adionuclides             |
| Cate     | gory: Defense TR | RU Waste So | urce: | R&D/R&D Laboratory Waste            |      |                           | Average<br>Density |                | Typical<br>Concentration |

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.0    | 15.4  | 15.4  |
| As-Generated Total   | 0.0    | 15.4  | 15.4  |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| RH Canister          | 0.0    | 20.5  | 20.5  |
| Final Form Total     | 0.0    | 20.5  | 20.5  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 126.80                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.50                          |
| Other Inorganic Materials      | 56.50                         |
| Cellulosics                    | 0.20                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.50                          |
| Solidified, Inorganic Matrix   | 315.90                        |
| Cement (Solidified)            | 296.40                        |
| Vitrified                      | 22.70                         |
| Solidified, Organic Matrix     | 0.10                          |
| Soils                          | 0.50                          |
| Packaging Material, Steel      | 511.00                        |
| Packaging Material, Plastic    | 21.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| rinai romi k | autonuchues                         |
|--------------|-------------------------------------|
| Isotope      | Typical<br>Concentration<br>(Ci/m3) |
| Am-241       | 2.33E-02                            |
| Am-243       | 1.14E-05                            |
| Cm-244       | 9.38E-05                            |
| Cs-137       | 2.94E+01                            |
| Np-237       | 3.69E-05                            |
| Pu-238       | 2.52E-02                            |
| Pu-239       | 6.58E-01                            |
| Pu-240       | 4.16E-01                            |
| Pu-241       | 6.92E-01                            |
| Pu-242       | 1.16E-05                            |
| Sr-90        | 2.58E+01                            |
| Th-229       | 5.81E-12                            |
| Th-230       | 7.41E-09                            |
| Th-232       | 9.95E-16                            |
| U-233        | 1.08E-08                            |
| U-234        | 1.38E-04                            |
| U-235        | 4.48E-06                            |
| U-236        | 3.39E-06                            |
| U-238        | 3.66E-07                            |
|              |                                     |

#### **Waste Stream Description**

This waste stream consists of chloride salts containing residual amounts of cadmium and barium. This waste stream will be generated from the Fuel Conditioning Facility operations as a result of decommissioning the electrorefining equipment. The cadmium pool will be pumped out of the MK-IV electrorefiner using the bulk fluid handling system. It will be treated with the most economical and technically sound available process for treating hazardous metals. The two technologies currently being considered are amalgamation and encapsulation. Amalgamation involves mixing the cadmium with another metal. Encapsulation involves covering the solid cadmium with a layer of plastic. Research and development on one or both of these processes will be done during the inventory reduction phase of spent fuel treatment. If other more promising technologies are proposed in the near future, they will also be considered. The final destination for this waste should be WIPP if the RH canister container can meet the RH radiation limitations of <100 R/hr at contact.

#### **Management Comments**

Remote Handled

U-234

U-235

U-236

U-238

2.10E-04

1.42E-04

3.13E-08

2.29E-05

0.50

511.00

21.00

464.00

0.00

#### Waste Stream ID: AW-W020.13

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IKUV  | VASIE                   | DAJELI   |       | NIORT WASTE PROFILE          |                               |            |                                     |
|---|-------------------------|--|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID AW-W020 Stream Name TRU-CD-HOT CELL WAS                               | Invent                  | Inventory Date 9/30/2002                           |       |                              |                               |            |                                     |
| Local ID CH-ANL-241T Handling RH Final Wa                                   | Waste Matrix Code S3113 | Waste Matrix Code S3113 Activity Concentrations De |       |                              |                               |            |                                     |
| Final Waste Form Descriptors  |                         |  |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste              | •  |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |                         |  |       | Iron-Base Metal/Alloys       | 126.80                        | Am-241     | 4.09E-01                            |
| ContainerType   | Stored                  | Proj.  | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     | 1.75E+01                            |
| Drum / 45 Gallon  | 0.0                     | _  |       | Other Metal/Alloys           | 0.50                          | Np-237     | 8.21E-06                            |
| Liner / 0.1m3   | 0.8                     | 0.0  |       | Other Inorganic Materials    | 56.50                         | Pu-239     | 5.62E-01                            |
| Liner / 0.3m3   | 1.5                     |  |       | Cellulosics                  | 0.20                          | Pu-240     | 1.76E-01                            |
| Liner / 0.5m3   | 9.5                     |  |       | Rubber                       | 0.00                          | Pu-241     | 3.68E+01                            |
|   | 0.0                     | 0.0  | 0.0   | Plastics                     | 1.50                          | Sr-90      | 3.39E+00                            |
| As-Generated Total  | 11.8                    | 2.0  | 13.8  | Solidified, Inorganic Matrix | 315.90                        | Th-229     | 6.30E-06                            |
| Final Form Volumes  |                         |  |       | Cement (Solidified)          | 296.40                        | Th-230     | 1.14E-08                            |
| ContainerType   | Stored                  | Proj.  | Total | Vitrified                    | 22.70                         | Th-232     | 4.64E-18                            |
| RH Canister   | 16.0                    |  |       | Solidified, Organic Matrix   | 0.10                          | U-233      | 1.12E-02                            |

#### **Waste Stream Description**

This waste stream consisted of metallic cadmium, salts, and associated cleanup materials (paper towels and cloth rags). The waste is contaminated with activation and fission products as well as with plutonium. This waste stream is generated for Fuel Conditioning Facility Demonstration support experiments; the analysis of fuels in the hot cells.

18.7

Soils

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Previous waste is stored in the Radioactive Scrap and Waste Facility in two liners. Future waste generation will be small because evaporation as part of the process will be done in the hot cell to minimize the volume.

16.0

**Final Form Total** 

2.7

#### **Management Comments**

Alpha Containment

#### Waste Stream ID: AW-W026

## Appendix J

|  | TRU W   | ASTE E | BASELIN | NE INVE | NTO                    | RY WASTE PROFILE              |         |                                     |                                     |  |
|--|---|--------|---------|---------|------------------------|-------------------------------|---------|-------------------------------------|-------------------------------------|--|
| HQ ID N/A Stream Name ALHC Upgrade Decon Debris Local ID CH-ANL-50-5T Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentration |   |        |         |         |                        |                               |         |                                     | ory Date 9/30/2002 cayed to CY 2002 |  |
| Final Waste Form Descriptors   | Final Waste Form Descriptors  Waste Material Parameters  Final Form Radionuclides |        |         |         |                        |                               |         |                                     |                                     |  |
| Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste   |   |        |         |         | Material Parameter     | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |                                     |  |
| Waste Volume Detail (m3)   |   |        |         | •       | Iron-Base Metal/Alloys | 97.00                         | Am-241  | 1.78E-01                            |                                     |  |
| As-Generated Volumes   |   |        |         |         |                        | Aluminum-Base Metal/Alloys    | 1.80    | Cs-137                              | 2.01E-01                            |  |
| ContainerType  |   | Stored | Proj.   | Total   |                        | Other Metal/Alloys            | 203.60  | Np-237                              | 3.48E-07                            |  |
| Bin / Metal  |   | 4.7    | 0.0     | 4.7     |                        | Other Increase Alekariele     | 44.00   | D.: 220                             | 2.405.02                            |  |

0.0

4.7

0.0

4.7

0.0

0.0

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 6.2    | 0.0   | 6.2   |
|                    | Final Form Total | 6.2    | 0.0   | 6.2   |

**As-Generated Total** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 97.00                         |
| Aluminum-Base Metal/Alloys     | 1.80                          |
| Other Metal/Alloys             | 203.60                        |
| Other Inorganic Materials      | 11.20                         |
| Cellulosics                    | 6.30                          |
| Rubber                         | 0.40                          |
| Plastics                       | 4.10                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 511.00                        |
| Packaging Material, Plastic    | 21.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Pu-239 3.16E-02 Sr-90 7.15E-01 8.41E-16 Th-229 Th-230 2.00E-16 U-233 4.48E-12 U-234 7.40E-12 U-235 3.25E-06 U-238 4.42E-07

#### **Waste Stream Description**

Drum / Metal

Waste packaged for WIPP containing: Radioactive cadmium debris from CH-ANL-242T, solidified to meet WIPP-WAC requirement for particulate immobilization, and bags of lead-lined gloves were placed in the solidified CO2 drums to fill the void spaces. The leftover gloves were placed in a separate 30 gallon drum. 1710 lbs of waste are in two TRU Pac containers: MW-S-94-02 AND MW-S-94

#### **Management Comments**

Additional Source - Other Decontamination Waste.

#### Waste Stream ID: AW-W028

## Appendix J

|   |           | BASELIN    | NE INVENT | ORY WASTE PROFILE            |                               |                 | ory Date 9/30/2002                  |
|---|-----------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name TRU Waste Used Pre-Filte                                    |           |            |           |                              |                               |                 |                                     |
| Local ID CH-ANL-503T Handling RH Final Was  | ste Form  | Filter     |           | Waste Matrix Code S5410      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters    | Waste Material Parameters     |                 |                                     |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3) | r Waste T | reatment F | Process   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |           | Iron-Base Metal/Alloys       | 0.00                          | Cs-137          | 2.69E-01                            |
| ContainerType   | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 28.90                         | Pu-239          | 2.67E-02                            |
| Bin / Metal   | 0.9       |            |           | Other Metal/Alloys           | 72.30                         | Pu-240          | 1.41E-03                            |
| Drum / 45 Gallon  | 0.0       |            |           | Other Inorganic Materials    | 57.80                         | Sr-90           | 7.48E-01                            |
|   |           |            |           | Cellulosics                  | 101.20                        | Th-230          | 3.35E-16                            |
| As-Generated Total  | 0.9       | 6.8        | 7.7       | Rubber                       | 28.90                         | Th-232          | 3.71E-20                            |
| Final Form Volumes  |           |            |           | Plastics                     | 0.00                          | U-234           | 1.24E-11                            |
| ContainerType   | Stored    | Proj.      | Total     | Solidified, Inorganic Matrix | 0.00                          | U-235           | 1.38E-06                            |
| RH Canister   | 1.8       |            |           | Cement (Solidified)          | 0.00                          | U-236           | 2.51E-10                            |
| To Touristics   | 1.0       | 0.0        | 10.7      | Vitrified                    | 0.00                          | U-238           | 7.41E-07                            |
| Final Form Total  | 1.8       | 8.9        | 10.7      | Solidified Organic Matrix    | 0.00                          | <u> </u>        |                                     |

#### **Waste Stream Description**

This waste stream consists of metal or wook framed filters. Filters are 2'x2'x0.5'. 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.

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Soils

0.00 0.00

511.00

21.00

464.00 0.00

#### **Management Comments**

## Waste Stream ID: AW-W046

As-Generated Volumes

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | N/A<br>N/A       | Stream Name<br>Handling |        | RLWS Filters and Resin Final Waste Form Heterogeneous Del | oris | Waste Matrix Code S5400   | Activity                      | / Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|------------------|-------------------------|--------|---|------|---------------------------|-------------------------------|---------|--------------|-------------------------------------|
| Final Was         | ste Form Descrip | tors                    |        |   |      | Waste Material Parameters |                               |         | Final Form R | adionuclides                        |
| _                 | ory: Defense TF  |                         | ource: | Pollution Control or Waste Treatment Process              |      | Material Parameter        | Average<br>Density<br>(kg/m3) |         | Isotope      | Typical<br>Concentration<br>(Ci/m3) |
|                   |                  |                         |        |   |      |                           | <b>_</b>                      |         |              |                                     |

| ContainerType                                | Stored | Proj. | Total |
|--|--------|-------|-------|
| RH Canister used to overpack 45 gallon drums | 0.0    | 2.0   | 2.0   |
| As-Generated Total                           | 0.0    | 2.0   | 2.0   |
| Elect Farm Values a                          |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 2.7   | 2.7   |
|                    | Final Form Total | 0.0    | 2.7   | 2.7   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 97.00                         |
| Aluminum-Base Metal/Alloys     | 1.80                          |
| Other Metal/Alloys             | 203.60                        |
| Other Inorganic Materials      | 11.20                         |
| Cellulosics                    | 6.30                          |
| Rubber                         | 0.40                          |
| Plastics                       | 4.10                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 511.00                        |
| Packaging Material, Plastic    | 21.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

# Typical Concentration (Ci/m3) Am-241 1.78E-01 Cs-137 2.01E-01 Np-237 3.48E-07 Pu-239 3.16E-02 Sr-90 7.15E-01 Th-229 8.41E-16 Th-230 2.00E-16

4.48E-12

7.40E-12

3.25E-06

4.42E-07

U-233

U-234

U-235

U-238

#### **Waste Stream Description**

The filters consist of two types. One is a depth filter made entirely of polypropylene. The other is a pleated filter made up of a glass fiber filter media with polyester support. This media is housed in a polypro; ylene cage with silicone O-rings. The filters are used primarily for the removal of cadmium. However, they also remove uranium and plutonium.

#### **Management Comments**

#### Waste Stream ID: AW-W047

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID<br>Local ID | N/A<br>N/A        | Stream Name<br>Handling |       | rucible (Graphite) Final Waste Form | Heterogeneous Debris | V | Vaste Matrix Code S5400   | Activity           | Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|-------------------|-------------------------|-------|-------------------------------------|----------------------|---|---------------------------|--------------------|-------|--------------|-------------------------------------|
| Final Wa          | ste Form Descrip  |                         | urce: | Pollution Control or Waste T        | Treatment Process    | w | Vaste Material Parameters | Average            |       | Final Form R | adionuclides<br>Typical             |
|                   | olume Detail (m3) |                         | uice. | Tollation Collision of Waste 1      | Trodunism Troccoc    | М | laterial Parameter        | Density<br>(kg/m3) |       | Isotope      | Concentration<br>(Ci/m3)            |

Total

2.0

|                    | As-Generated Total | 0.0    | 2.0   | 2.0   |
|--------------------|--------------------|--------|-------|-------|
| Final Form Volumes |                    |        |       |       |
| ContainerType      |                    | Stored | Proj. | Total |
| RH Canister        |                    | 0.0    | 2.7   | 2.7   |

| Stored | Proj. | Total |
|--------|-------|-------|
| 0.0    | 2.7   | 2.7   |

Stored

0.0

Proj.

2.0

| Final Form Total | 0.0 | 2.7 | 2.7 |
|------------------|-----|-----|-----|

| Material Parameter           | Density<br>(kg/m3) |
|------------------------------|--------------------|
| Iron-Base Metal/Alloys       | 97.00              |
| Aluminum-Base Metal/Alloys   | 1.80               |
| Other Metal/Alloys           | 203.60             |
| Other Inorganic Materials    | 11.20              |
| Cellulosics                  | 6.30               |
| Rubber                       | 0.40               |
| Plastics                     | 4.10               |
| Solidified, Inorganic Matrix | 0.00               |
| Cement (Solidified)          | 0.00               |
| Vitrified                    | 0.00               |

0.00

0.00

511.00

21.00

464.00 0.00

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

| Concentration<br>(Ci/m3) |
|--------------------------|
| 1.78E-01                 |
| 2.01E-01                 |
| 3.48E-07                 |
| 3.16E-02                 |
| 7.15E-01                 |
| 8.41E-16                 |
| 2.00E-16                 |
| 4.48E-12                 |
| 7.40E-12                 |
| 3.25E-06                 |
| 4.42E-07                 |
|                          |

#### **Waste Stream Description**

As-Generated Volumes ContainerType

RH Canister used to overpack 45 gallon drums

The crucible waste stream in the Fuel Conditioning Facility (FCF) has been characterized as TRU waste. Presently, three 45 gallon RH-TRU containers are filled with crushed crucible material, and are awaiting shipment to the radioactive scrap and waste facility (RSWF). Befor crushing, crucibles are cleaned below their clean tare weight. Based on samples taken on crushed crucible material, there are only a few tenths of grams of fissile material (u-235 or Pu-239 present per crucible disposed.

#### **Management Comments**

# AW-W048 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name FCF Indirect RH-MTRU Waste

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes                         |       |        |       |       |
|--|-------|--------|-------|-------|
| ContainerType                                |       | Stored | Proj. | Total |
| RH Canister used to overpack 45 gallon drums |       | 0.0    | 3.4   | 3.4   |
| As-Generated To                              | tal [ | 0.0    | 3.4   | 3.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 4.4   | 4.4   |
|                    | Final Form Total | 0.0    | 4.4   | 4.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 179.90                        |
| Aluminum-Base Metal/Alloys     | 32.30                         |
| Other Metal/Alloys             | 5.40                          |
| Other Inorganic Materials      | 40.00                         |
| Cellulosics                    | 39.30                         |
| Rubber                         | 13.70                         |
| Plastics                       | 51.80                         |
| Solidified, Inorganic Matrix   | 3.60                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.60                          |
| Soils                          | 2.30                          |
| Packaging Material, Steel      | 511.00                        |
| Packaging Material, Plastic    | 21.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 1.78E-01                            |  |  |  |
| Cs-137  | 2.01E-01                            |  |  |  |
| Np-237  | 3.48E-07                            |  |  |  |
| Pu-239  | 3.16E-02                            |  |  |  |
| Sr-90   | 7.15E-01                            |  |  |  |
| Th-229  | 8.41E-16                            |  |  |  |
| Th-230  | 2.00E-16                            |  |  |  |
| U-233   | 4.48E-12                            |  |  |  |
| U-234   | 7.40E-12                            |  |  |  |
| U-235   | 3.25E-06                            |  |  |  |
| U-238   | 4.42E-07                            |  |  |  |

#### **Waste Stream Description**

FCF Argon cell RH-MTRU waste - rags, plastic, glass, rubber, paper, cardboard, aluminum foil, metal, brushes, copper, bolts, smears, nylon sling, insulation, o-rings, etc.

#### **Management Comments**

## Waste Stream ID: AW-W049

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name FMF glovebox waste                         |        |       |                           |                                |                               | Inventory Date 9/30/2002 |                                     |
|--|--------|-------|---------------------------|--------------------------------|-------------------------------|--------------------------|-------------------------------------|
|  |        |       |                           |                                |                               |                          | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |        |       | Waste Material Parameters |                                | Final Form Radionuclides      |                          |                                     |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |       |                           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope                  | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |       |                           | Iron-Base Metal/Alloys         | 20.00                         | Pu-239                   | 4.30E-02                            |
| ContainerType  | Stored | Proj. | Total                     | Aluminum-Base Metal/Alloys     | 0.00                          | U-235                    | 4.24E-11                            |
| Drum / 55 gallon   | 0.0    | 8.5   |                           | Other Metal/Alloys             | 0.00                          |                          |                                     |
|  | I      |       |                           | Other Inorganic Materials      | 15.00                         |                          |                                     |
| As-Generated Total   | 0.0    | 8.5   | 8.5                       | Cellulosics                    | 90.00                         |                          |                                     |
| Final Form Volumes   |        |       |                           | Rubber                         | 0.00                          |                          |                                     |
| ContainerType  | Stored | Proj. | Total                     | Plastics                       | 90.00                         |                          |                                     |
| 55 Gallon Drum   | 0.0    | 8.5   | 8.5                       | Solidified, Inorganic Matrix   | 0.00                          |                          |                                     |
|  |        |       | <del></del>               | Cement (Solidified)            | 0.00                          |                          |                                     |
| Final Form Total   | 0.0    | 8.5   | 8.5                       | Vitrified                      | 0.00                          |                          |                                     |
|  |        |       |                           | Solidified, Organic Matrix     | 0.00                          |                          |                                     |
|  |        |       |                           | Soils                          | 0.00                          |                          |                                     |
|  |        |       |                           | Packaging Material, Steel      | 115.00                        |                          |                                     |
|  |        |       |                           | Packaging Material, Plastic    | 30.00                         |                          |                                     |
|  |        |       |                           | Packaging Material, Lead       | 0.00                          |                          |                                     |
|  |        |       |                           | Packaging Material, Steel Plug | 0.00                          |                          |                                     |

**Waste Stream Description** 

FMF experiment glovebox waste.

**Management Comments** 

**BCLCH-MT01** Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name JN-4 D&D Debris Waste                                  |                      |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|----------------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form Combustible |       |       | Waste Matrix Code S5490        | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |                      |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | ) Waste              |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                      |       |       | Iron-Base Metal/Alloys         | 60.00                         | Am-241          | 1.24E+00                            |
| ContainerType  | Stored               | Proj. | Total | Aluminum-Base Metal/Alloys     | 60.00                         | Pu-238          | 3.40E+02                            |
| Bin/ M-111   | 3.8                  |       | 3.8   | Other Metal/Alloys             | 60.00                         | Pu-239          | 5.49E+00                            |
| Drum / 55 gallon   | 1.5                  |       |       | Other Inorganic Materials      | 72.00                         | Pu-240          | 1.44E+00                            |
|  |                      |       |       | Cellulosics                    | 204.50                        | Pu-241          | 6.87E+01                            |
| As-Generated Total   | 5.2                  | 0.0   | 5.2   | Rubber                         | 122.41                        | Pu-242          | 2.34E-04                            |
| Final Form Volumes   |                      |       |       | Plastics                       | 240.60                        |                 |                                     |
| ContainerType  | Stored               | Proj. | Total | Solidified, Inorganic Matrix   | 0.00                          |                 |                                     |
| 55 Gallon Drum   | 1.5                  |       | 1.5   | Cement (Solidified)            | 62.41                         |                 |                                     |
| Standard Waste Box   | 3.8                  | 0.0   | 3.8   | Vitrified                      | 0.00                          |                 |                                     |
|  |                      |       |       | Solidified, Organic Matrix     | 36.05                         |                 |                                     |
| Final Form Total   | 5.2                  | 0.0   | 5.2   | Soils                          | 0.00                          |                 |                                     |
|  |                      |       |       | Packaging Material, Steel      | 124.55                        |                 |                                     |
|  |                      |       |       | Packaging Material, Plastic    | 7.54                          |                 |                                     |
|  |                      |       |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |                      |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

### **Waste Stream Description**

JN-4 D&D Debris Waste consists of heterogeneous debris waste generated by the activities conducted in Building JN-4. The waste includes paper, plastic, rubber, paint chips, crushed metal cans, prefilters, glass, concrete, grout, lead shot, and miscellaneous laboratory equipment

### **Management Comments**

TB @ LANL assumed M-111 bins repackaged into SWBs since volumes are the same. This allows us to capture the volume for PA puposes. Understand this is not a commitment by BCL.

### Waste Stream ID: BCLRH-MT01

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Hazardous organic debris                                |                        |       |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------------------|-------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling RH Final Was  | Waste Form Combustible |       |       | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |                        |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3) | Waste                  |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |                        |       |       | Iron-Base Metal/Alloys       | 28.60                         | Am-241     | 2.87E+00                            |
| ContainerType   | Stored                 | Proj. | Total | Aluminum-Base Metal/Alloys   | 8.40                          | Am-243     | 2.15E-02                            |
| Drum / 55 gallon  | 0.6                    | 0.0   | 0.6   | Other Metal/Alloys           | 101.00                        | Cm-244     | 2.31E+00                            |
|   |                        |       |       | Other Inorganic Materials    | 10.10                         | Cs-137     | 5.72E+01                            |
| As-Generated Total  | 0.6                    | 0.0   | 0.6   | Cellulosics                  | 204.00                        | Np-237     | 2.59E-04                            |
| Final Form Volumes  |                        |       |       | Rubber                       | 27.00                         | Pu-238     | 2.76E+00                            |
| ContainerType   | Stored                 | Proj. | Total | Plastics                     | 101.00                        | Pu-239     | 3.55E-01                            |
| RH Canister   | 0.9                    | 0.0   | 0.9   | Solidified, Inorganic Matrix | 0.00                          | Pu-240     | 5.78E-01                            |
|   | I                      |       |       | Cement (Solidified)          | 18.50                         | Pu-241     | 4.66E+01                            |
| Final Form Total  | 0.9                    | 0.0   | 0.9   | Vitrified                    | 0.00                          | Pu-242     | 1.73E-03                            |
|   |                        |       |       | Solidified, Organic Matrix   | 1.70                          | Sr-90      | 3.76E+01                            |
|   |                        |       |       | Soils                        | 0.00                          | U-233      | 3.08E-08                            |
|   |                        |       |       | Packaging Material, Steel    | 770.00                        | U-234      | 9.89E-04                            |
|   |                        |       |       | Packaging Material, Plastic  | 17.00                         | U-235      | 1.44E-05                            |

### **Waste Stream Description**

Hazardous organic debris consists of the materials generated during repackaging of the waste materials generated from research and development activities conducted in Building JN-1. This waste consists primarily of iron based metals, paper, plastic, cloth, aluminum, cellulosics, rubber, and lead items (bricks, shot, apron, and gloves).

Packaging Material, Lead

Packaging Material, Steel Plug

464.00

0.00

U-236

U-238

1.91E-04

2.80E-04

### **Management Comments**

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A               |          |         | /ater Filter Resin                   | <br>                      |                    |      |                 | y Date 9/30/2002      |
|----------|-------------------|----------|---------|--------------------------------------|---------------------------|--------------------|------|-----------------|-----------------------|
| Local ID | N/A               | Handlii  | ng RH   | Final Waste Form Solidified Organics | Waste Matrix Code S3211   | Activity           | Conc | entrations Deca | ayed to CY 2002       |
| Final Wa | ste Form Descrip  | otors    |         | _                                    | Waste Material Parameters |                    |      | Final Form R    | adionuclides          |
| Categ    | ory: Defense TF   | RU Waste | Source: | Remediation/D&D Waste                |                           | Average<br>Density |      |                 | Typical Concentration |
| Waste Vo | olume Detail (m3) | 1        |         |                                      | Material Parameter        | (kg/m3)            |      | Isotope         | (Ci/m3)               |

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.4    | 0.0   | 0.4   |
| As-Generated Total   | 0.4    | 0.0   | 0.4   |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| RH Canister          | 0.9    | 0.0   | 0.9   |
|                      |        |       |       |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.60                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 5.60                          |
| Cellulosics                    | 6.70                          |
| Rubber                         | 5.60                          |
| Plastics                       | 6.70                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 33.70                         |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 129.20                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 770.00                        |
| Packaging Material, Plastic    | 17.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| Am-241                   | 1.99E-02                            |  |  |  |  |  |  |
| Am-243                   | 1.49E-04                            |  |  |  |  |  |  |
| Cm-244                   | 1.60E-02                            |  |  |  |  |  |  |
| Cs-137                   | 3.97E-01                            |  |  |  |  |  |  |
| Np-237                   | 1.79E-06                            |  |  |  |  |  |  |
| Pu-238                   | 1.92E-02                            |  |  |  |  |  |  |
| Pu-239                   | 2.46E-03                            |  |  |  |  |  |  |
| Pu-240                   | 4.01E-03                            |  |  |  |  |  |  |
| Pu-241                   | 3.23E-01                            |  |  |  |  |  |  |
| Pu-242                   | 1.20E-05                            |  |  |  |  |  |  |
| Sr-90                    | 2.60E-01                            |  |  |  |  |  |  |
| U-233                    | 2.13E-10                            |  |  |  |  |  |  |
| U-234                    | 6.87E-06                            |  |  |  |  |  |  |
| U-235                    | 1.00E-07                            |  |  |  |  |  |  |
| U-236                    | 1.33E-06                            |  |  |  |  |  |  |
| U-238                    | 1.94E-06                            |  |  |  |  |  |  |

### **Waste Stream Description**

Pool Water Filter Resin consists of ion-exchange resin (nuclear grade), which was used for deionizing the Transfer/Storage Pool water. The CM-2 Regenerated Mixed Bed Resin used was contained in muslin bags (cotton bags). The matrix will also include Floor Dry (diatomaceous earth) used as an absorbent during the original packaging of this waste and 10 lbs. of absorbent (50:50 Floor Dry and Radsorb) added during repackaging to absorb any water from condensation or dewatering

### **Management Comments**

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Pool Water Prefilters and I Local ID N/A Handling RH Final Was | Debris<br>ste Form F | ilter |       | Waste Matrix Code S5410    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|----------------------|-------|-------|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |                      |       |       | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3)        | Waste                |       |       | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |                      |       |       | Iron-Base Metal/Alloys     | 8.40                          | Am-241     | 5.33E-01                                |
| ContainerType  | Stored               | Proj. | Total | Aluminum-Base Metal/Alloys | 0.00                          | Cm-244     | 2.78E-01                                |
| Drum / 55 gallon   | 1.2                  |       |       | Other Metal/Alloys         | 0.00                          | Cs-137     | 4.68E-01                                |
|  |                      |       |       | Other Inorganic Materials  | 379.30                        | Pu-238     | 6.23E-01                                |
| As-Generated Total   | 1.2                  | 0.0   | 1.2   | Cellulosics                | 8.40                          | Pu-239     | 6.58E-02                                |
| Final Form Volumes   |                      |       |       | Rubber                     | 8.40                          | Pu-240     | 1.07E-01                                |

Total

1.8

1.8

Stored

Final Form Total

1.8

1.8

Proj.

0.0

0.0

Plastics

Vitrified

Soils

Solidified, Inorganic Matrix

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Cement (Solidified)

Sr-90

U-233

U-234

U-235

U-236

U-238

1.89E+01

9.04E-09

2.92E-04

4.38E-06

5.76E-05

8.34E-05

8.40

0.00

25.30

0.00

18.50

0.00

770.00

17.00

464.00 0.00

### **Waste Stream Description**

ContainerType

RH Canister

Pool Water Prefilters and Debris consists of the cartridge prefilters and debris generated during the change-out of resin used for filtering the Transfer/Storage Pool water. The filter matrix is composed f glass and cellulose fibers combined with melamine resin. The end caps are polypropylene and the filters are placed in the canisters with rubber gaskets (butyl/nitrile). Other debris that may be present from the original packaging may include paper (blotter paper and Floor Dry bags), plastic liners, rubber gaskets, muslin resin bags, rubber gloves, and other miscellaneous plastic, cellulosics, and metal materials. The waste matrix will also include Floor Dry and Radsorb added during repackaging to absorb any water from condensation or dewatering.

### **Management Comments**

# BCLRH-T003 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

**HQ ID** N/A Stream Name Organic Debris Inventory Date 9/30/2002 N/A Local ID Handling RHFinal Waste Form Combustible **Waste Matrix Code** Activity Concentrations Decayed to CY 2002 **Final Waste Form Descriptors Waste Material Parameters** Final Form Radionuclides Source: Remediation/D&D Waste Defense TRU Waste Category:

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                |                  |                   |
|----------------------|----------------|------------------|-------------------|
| ContainerType        | Stored         | Proj.            | Total             |
| Drum / 55 gallon     | 11.0           | 0.2              | 11.2              |
| As-Generated Total   | 11.0           | 0.2              | 11.2              |
| Eluci Form Volumes   |                |                  |                   |
| Final Form Volumes   |                |                  |                   |
| ContainerType        | Stored         | Proj.            | Total             |
|                      | Stored<br>16.0 | <b>Proj.</b> 0.9 | <b>Total</b> 16.9 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.00                          |
| Aluminum-Base Metal/Alloys     | 8.00                          |
| Other Metal/Alloys             | 1.60                          |
| Other Inorganic Materials      | 9.60                          |
| Cellulosics                    | 31.90                         |
| Rubber                         | 23.90                         |
| Plastics                       | 95.60                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 17.60                         |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.60                          |
| Soils                          | 1.60                          |
| Packaging Material, Steel      | 770.00                        |
| Packaging Material, Plastic    | 17.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| Am-241                   | 1.43E-01                            |  |  |  |  |  |  |
| Am-243                   | 1.07E-03                            |  |  |  |  |  |  |
| Cm-244                   | 1.15E-01                            |  |  |  |  |  |  |
| Cs-137                   | 2.85E+00                            |  |  |  |  |  |  |
| Np-237                   | 1.29E-05                            |  |  |  |  |  |  |
| Pu-238                   | 1.37E-01                            |  |  |  |  |  |  |
| Pu-239                   | 1.77E-02                            |  |  |  |  |  |  |
| Pu-240                   | 2.88E-02                            |  |  |  |  |  |  |
| Pu-241                   | 2.32E+00                            |  |  |  |  |  |  |
| Pu-242                   | 8.63E-05                            |  |  |  |  |  |  |
| Sr-90                    | 1.87E+00                            |  |  |  |  |  |  |
| U-233                    | 1.53E-09                            |  |  |  |  |  |  |
| U-234                    | 4.92E-05                            |  |  |  |  |  |  |
| U-235                    | 7.17E-07                            |  |  |  |  |  |  |
| U-236                    | 9.56E-06                            |  |  |  |  |  |  |
| U-238                    | 1.39E-05                            |  |  |  |  |  |  |

#### **Waste Stream Description**

Organic Debris consists of the materials generated during repackaging of the waste materials generated from research and development activities conducted in Building JN-1. This waste consists primarily of rubber debris material including polyethylene, polyvinyl chloride, nylon, Styrofoam, Tygon, plexiglass, and neoprene. Wood debris with no signs of hazardous waste contamination may also be included. Waste items may include non-deteriorated sheeting, hose/tubing, respirators, boots, rain suits, o-rings, electrical cords, safety glasses, plexiglass panels, plywood, and pallets. The waste matrix will also include Floor Dry and Radsorb added during repackaging to absorb any water from condensation or dewatering

### **Management Comments**

# Waste Stream ID: BCLRH-T004

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Inorganic Debris                                       |         |            |           |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|---------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling RH Final Was   | te Form | norganic N | Non-Metal | Waste Matrix Code S5190      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |         |            |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste   |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |            |           | Iron-Base Metal/Alloys       | 267.10                        | Am-241          | 4.60E+00                            |
| ContainerType  | Stored  | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 121.60                        | Am-243          | 3.44E-02                            |
| Drum / 55 gallon   | 10.0    | _          |           | Other Metal/Alloys           | 1.60                          | Cm-244          | 3.70E+00                            |
|  |         | V          |           | Other Inorganic Materials    | 113.20                        | Cs-137          | 9.16E+01                            |
| As-Generated Total   | 10.0    | 0.2        | 10.2      | Cellulosics                  | 17.80                         | Np-237          | 4.15E-04                            |
| Final Form Volumes   |         |            |           | Rubber                       | 3.20                          | Pu-238          | 4.43E+00                            |
|  | Stored  | Proj.      | Total     | Plastics                     | 97.00                         | Pu-239          | 5.69E-01                            |
| RH Canister  | 14.2    | 0.9        |           | Solidified, Inorganic Matrix | 0.00                          | Pu-240          | 9.30E-01                            |
| TAT Carrietor  | ' '     | 0.0        | 10.1      | Cement (Solidified)          | 17.80                         | Pu-241          | 7.48E+01                            |
| Final Form Total   | 14.2    | 0.9        | 15.1      | Vitrified                    | 0.00                          | Pu-242          | 2.78E-03                            |
|  |         |            |           | Solidified, Organic Matrix   | 1.60                          | Sr-90           | 6.03E+01                            |
|  |         |            |           | Soils                        | 40.40                         | U-233           | 4.94E-08                            |
|  |         |            |           | Packaging Material, Steel    | 770.00                        | U-234           | 1.58E-03                            |

### **Waste Stream Description**

Inorganic Debris consists of glass and metal debris generated during repackaging of the waste materials generated from research and development activities conducted in Building JN-1. Glass debris includes laboratory glassware, windows, and various glass apparatus. Metal debris may include deteriorated berry cans, cable wire, planchets, sign, valves, piping, strapping, tools, foil, sheeting, fixtures, equipment, hardware, fuel rod cladding, and Metmounts (sectioned metal material embedded in a plastic matrix). Metals of construction include stainless steel, aluminum, iron, copper, beryllium, and zirconium alloy (Zr-2, Zr-4). The waste matrix will also include Floor Dry and Radsorb added during repackaging to absorb any water from condensation or dewatering.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

17.00

464.00

0.00

U-235

U-236

U-238

2.32E-05

3.07E-04

4.50E-04

### **Management Comments**

U-238

4.00E-04

0.00

## Waste Stream ID: BCLRH-T005

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Tri-Nuc Filters  |                   |       |       |                              |                               | Invent                                    | ory Date 9/30/2002                  |  |  |
|--|-------------------|-------|-------|------------------------------|-------------------------------|---|-------------------------------------|--|--|
|  | Waste Form Filter |       |       | Waste Matrix Code S5410      | Activity Co                   | Activity Concentrations Decayed to CY 200 |                                     |  |  |
| Final Waste Form Descriptors   |                   |       |       | Waste Material Parameters    |                               | Final Form                                | Radionuclides                       |  |  |
| Category: Defense TRU Waste Source: Remediation/D&D W Waste Volume Detail (m3) | Vaste             |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                                   | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes   |                   |       |       | Iron-Base Metal/Alloys       | 61.70                         | Am-241                                    | 4.09E+00                            |  |  |
|  | Stored            | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243                                    | 3.05E-02                            |  |  |
| Drum / 55 gallon   | 0.4               | 0.0   |       | Other Metal/Alloys           | 0.00                          | Cm-244                                    | 3.29E+00                            |  |  |
|  | I                 |       |       | Other Inorganic Materials    | 22.50                         | Cs-137                                    | 8.13E+01                            |  |  |
| As-Generated Total   | 0.4               | 0.0   | 0.4   | Cellulosics                  | 5.60                          | Np-237                                    | 3.68E-04                            |  |  |
| Final Form Volumes   |                   |       |       | Rubber                       | 0.00                          | Pu-238                                    | 3.94E+00                            |  |  |
|  | Stored            | Proj. | Total | Plastics                     | 39.30                         | Pu-239                                    | 5.05E-01                            |  |  |
| RH Canister  | 0.9               | 0.0   |       | Solidified, Inorganic Matrix | 0.00                          | Pu-240                                    | 8.23E-01                            |  |  |
|  |                   |       |       | Cement (Solidified)          | 16.90                         | Pu-241                                    | 6.64E+01                            |  |  |
| Final Form Total   | 0.9               | 0.0   | 0.9   | Vitrified                    | 0.00                          | Pu-242                                    | 2.47E-03                            |  |  |
|  |                   |       |       | Solidified, Organic Matrix   | 12.40                         | Sr-90                                     | 5.33E+01                            |  |  |
|  |                   |       |       | Soils                        | 0.00                          | U-233                                     | 4.38E-08                            |  |  |
|  |                   |       |       | Packaging Material, Steel    | 770.00                        | U-234                                     | 1.41E-03                            |  |  |
|  |                   |       |       | Packaging Material, Plastic  | 17.00                         | U-235                                     | 2.06E-05                            |  |  |
|  |                   |       |       | Packaging Material, Lead     | 464.00                        | U-236                                     | 2.73E-04                            |  |  |

### **Waste Stream Description**

Tri-Nuc Filters consists of filter cartridges used in the underwater vacuum system for cleaning the surfaces and filtering the water of the Transfer/Storage Pool. The cartridges are 30" long and 6" in diameter and consist of media enclosed within a stainless steel screen shroud, and aluminum screen reinforced plastisol end caps. The filter media is composed of polypropylene, melt brown reinforced typar, and is available in 0.3, 1, 5, 10, and 20-micron mesh sizes. The waste matrix will also include Floor Dry (diatomaceous earth) and Radsorb (50:50 mix) added to each liner.

Packaging Material, Steel Plug

### **Management Comments**

1.56E+01

5.80E-04

1.26E+01

1.03E-08

3.30E-04

4.84E-06

6.40E-05

9.37E-05

## Waste Stream ID: BCLRH-T006

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | 11.0                    | TAOTE     | JAULLI       | INE IINVEIN | TORT WASTET ROTTEE           |                               |            |   |
|---|-------------------------|-----------|--------------|-------------|------------------------------|-------------------------------|------------|---|
| HQ ID N/A Stream Na Local ID N/A Hand                 |                         | aste Form | Solidified I | Inorganics  | Waste Matrix Code S3150      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors                          |                         |           |              |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste  Waste Volume Detail (m3) | Source: Remediation/D&D | ) Waste   |              |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes                                  |                         |           |              |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 9.58E-01                                |
| ContainerType   |                         | Stored    | Proj.        | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243     | 7.17E-03                                |
| Drum / 55 gallon                                      |                         | 0.2       |              |             | Other Metal/Alloys           | 0.00                          | Cm-244     | 7.71E-01                                |
|   |                         |           |              |             | Other Inorganic Materials    | 0.00                          | Cs-137     | 1.91E+01                                |
|   | As-Generated Total      | 0.2       | 0.0          | 0.2         | Cellulosics                  | 0.00                          | Np-237     | 8.65E-05                                |
| Final Form Volumes                                    |                         |           |              |             | Rubber                       | 0.00                          | Pu-238     | 9.23E-01                                |
| ContainerType   |                         | Stored    | Proj.        | Total       | Plastics                     | 3.40                          | Pu-239     | 1.19E-01                                |
| RH Canister   |                         | 0.9       | _            |             | Solidified, Inorganic Matrix | 0.00                          | Pu-240     | 1.94E-01                                |
|   |                         |           |              |             |                              |                               |            |   |

0.9

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

16.80

0.00

0.00

154.50

770.00

17.00

464.00

0.00

Pu-241

Pu-242

Sr-90

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

Slugs were produced in Alpha-Gamma Cell 7 by dissolving irradiated (burnup) fuel in an acid solution, which was then diluted several times and mixed with cement and water and allowed to solidify in Styrofoam cups. The slugs will contain only limited amounts of dissolved fuel because of the dilution. The Styrofoam cups will be segregated from the slugs prior to final packaging. The waste matrix will also include Floor Dry and Radsorb added during repackaging to absorb any water from condensation or dewatering

0.9

**Final Form Total** 

0.0

### **Management Comments**

4.77E-06

1.04E-01

8.48E-11

2.73E-06

4.00E-08

5.28E-07

7.74E-07

Waste Stream ID: BCLRH-T007

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | VASILL   | PASELII      | AL HAALIA | HORT WASTE PROFILE           |                               |            |   |
|--|----------|--------------|-----------|------------------------------|-------------------------------|------------|---|
| HQ ID N/A Stream Name Laundry Sludge Local ID N/A Handling RH Final Wa       | ste Form | Solidified I | norganics | Waste Matrix Code S3129      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors   |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste    |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 7.92E-03                                |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243     | 5.91E-05                                |
| Drum / 55 gallon   | 0.2      | 0.0          |           | Other Metal/Alloys           | 0.00                          | Cm-244     | 6.38E-03                                |
| 2.4/ CO gaile  | J        | 0.0          | V         | Other Inorganic Materials    | 59.00                         | Cs-137     | 1.58E-01                                |
| As-Generated Total   | 0.2      | 0.0          | 0.2       | Cellulosics                  | 10.10                         | Np-237     | 7.13E-07                                |
| Final Form Volumes   |          |              |           | Rubber                       | 0.00                          | Pu-238     | 7.62E-03                                |
| ContainerType  | Stored   | Proj.        | Total     | Plastics                     | 3.40                          | Pu-239     | 9.79E-04                                |
| RH Canister  | 0.9      | 0.0          |           | Solidified, Inorganic Matrix | 0.00                          | Pu-240     | 1.60E-03                                |
| Ta Touristo  | 0.0      | 0.0          | 0.0       | Cement (Solidified)          | 0.00                          | Pu-241     | 1.29E-01                                |

0.9

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

10.10

0.00

770.00

17.00

464.00

0.00

Pu-242

Sr-90

U-233

U-234

U-235

U-236

U-238

### **Waste Stream Description**

Laundry sludge consists of a particulate sludge (dirt, debris, and lint) generated when the laundry system still box requires cleaning. The box is heated to boil off the water contained in the particulate material. The resulting sludge is raked into plastic bags containing Radsorb (10%-20% by weight) to absorb any water from condensation or dewatering.

0.0

0.9

Final Form Total

### **Management Comments**

1.54E+00

5.70E-05

1.24E+00

1.01E-09

3.26E-05

4.77E-07

6.31E-06

9.25E-06

### Waste Stream ID: BCLRH-T008

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IR  | UWASIE       | DASELII | NE INVENT | ORT WASTE PROFILE            |                               |                 |                                     |
|---|--------------|---------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name Laundry Sock Filters                                |              |         |           |                              |                               |                 | ory Date 9/30/2002                  |
| Local ID N/A Handling RH Fina   | I Waste Form | -ilter  |           | Waste Matrix Code S5410      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |              |         |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/ Waste Volume Detail (m3) | D&D Waste    |         |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |              |         |           | Iron-Base Metal/Alloys       | 6.70                          | Am-241          | 9.44E-02                            |
| ContainerType   | Stored       | Proj.   | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243          | 7.06E-04                            |
| Drum / 55 gallon  | 0.4          | 0.0     | 0.4       | Other Metal/Alloys           | 0.00                          | Cm-244          | 7.62E-02                            |
| •   |              |         |           | Other Inorganic Materials    | 39.30                         | Cs-137          | 1.89E+00                            |
| As-Generated To   | otal 0.4     | 0.0     | 0.4       | Cellulosics                  | 134.80                        | Np-237          | 8.51E-06                            |
| Final Form Volumes  |              |         |           | Rubber                       | 0.00                          | Pu-238          | 9.11E-02                            |
| ContainerType   | Stored       | Proj.   | Total     | Plastics                     | 39.30                         | Pu-239          | 1.17E-02                            |
| RH Canister   | 0.9          | 0.0     |           | Solidified, Inorganic Matrix | 0.00                          | Pu-240          | 1.91E-02                            |

Final Form Total

0.9

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Vitrified

Soils

16.90

0.00

12.40

0.00

770.00

17.00

464.00

0.00

Pu-241

Pu-242

Sr-90

U-233

U-234

U-235

U-236

U-238

### **Waste Stream Description**

Laundry Sock Filters and Lint are generated during the operation of the BCLDP TRU waste laundry system in the JN-1 Pump Room. This stream includes Rosedale polypropylene high-efficiency liquid filter bags and cotton lint from laundered mop heads and rags. No RCRA waste was processed through the laundry

0.9

### **Management Comments**

464.00

0.00

U-236

U-238

2.13E-05

3.11E-05

### Waste Stream ID: BCLRH-T009

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Pressure Wash Filters                                   |            |       |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling RH Final Was  | ste Form F | ilter |       | Waste Matrix Code S5410      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3) | Waste      |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys       | 22.50                         | Am-241     | 3.18E-01                            |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243     | 2.38E-03                            |
| Drum / 55 gallon  | 1.0        | 0.0   | 1.0   | Other Metal/Alloys           | 0.00                          | Cm-244     | 2.56E-01                            |
|   |            |       |       | Other Inorganic Materials    | 168.60                        | Cs-137     | 6.37E+00                            |
| As-Generated Total  | 1.0        | 0.0   | 1.0   | Cellulosics                  | 42.10                         | Np-237     | 2.87E-05                            |
| Final Form Volumes  |            |       |       | Rubber                       | 8.40                          | Pu-238     | 3.07E-01                            |
| ContainerType   | Stored     | Proj. | Total | Plastics                     | 15.50                         | Pu-239     | 3.94E-02                            |
| RH Canister   | 1.8        | 0.0   | 1.8   | Solidified, Inorganic Matrix | 0.00                          | Pu-240     | 6.43E-02                            |
|   | I .        |       |       | Cement (Solidified)          | 35.10                         | Pu-241     | 5.16E+00                            |
| Final Form Total  | 1.8        | 0.0   | 1.8   | Vitrified                    | 0.00                          | Pu-242     | 1.92E-04                            |
|   |            |       |       | Solidified, Organic Matrix   | 91.20                         | Sr-90      | 4.17E+00                            |
|   |            |       |       | Soils                        | 0.00                          | U-233      | 3.42E-09                            |
|   |            |       |       | Packaging Material, Steel    | 770.00                        | U-234      | 1.10E-04                            |
|   |            |       |       | Packaging Material Plastic   | 17.00                         | 11-235     | 1.60F-06                            |

### **Waste Stream Description**

Pressure Wash Filters used in the pressure wash water recovery system for filtering wash water transferred for evaporation. Three types of filter/cartridges were used. Cotton media filters consisting of cotton yarn and cotton media wound around a polypropylene core. Resin media type cartridges composed of glass and cellulose fibers combined with melamine resin, and a polypropylene sock filter consisting of polypropylene material supported by a carbon steel ring. Small quantities of sludge collected in the filter housings and settling tank bottoms are included in this waste stream. The waste matrix also includes Radsorb added to each liner.

Packaging Material, Lead

Packaging Material, Steel Plug

### **Management Comments**

4.35E+02

4.86E-07

6.05E-06

5.45E-08

1.18E-06

1.45E-06

Waste Stream ID: BCLRH-T010

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| 1110  |          |           |            |                              |                               |         |   |
|---|----------|-----------|------------|------------------------------|-------------------------------|---------|---|
| HQ ID         N/A         Stream Name         Sabotage Pieces           Local ID         N/A         Handling         RH         Final Wa | ste Form | Incategor | ized Metal | Waste Matrix Code S5111      | Activity Co                   |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |          | oa.a.aga  |            | Waste Material Parameters    | Activity Co                   |         | Radionuclides                           |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3)   | Waste    |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |          |           |            | Iron-Base Metal/Alloys       | 129.20                        | Am-241  | 5.61E+00                                |
| ContainerType   | Stored   | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Am-243  | 7.83E-02                                |
| Drum / 55 gallon  | 0.2      |           |            | Other Metal/Alloys           | 0.00                          | Cm-244  | 4.11E+00                                |
|   |          |           |            | Other Inorganic Materials    | 0.00                          | Cs-137  | 8.04E+02                                |
| As-Generated Total  | 0.2      | 0.0       | 0.2        | Cellulosics                  | 14.60                         | Np-237  | 5.02E-03                                |
| Final Form Volumes  |          |           |            | Rubber                       | 0.00                          | Pu-238  | 1.67E-02                                |
| ContainerType   | Stored   | Proj.     | Total      | Plastics                     | 14.60                         | Pu-239  | 1.43E-03                                |
| RH Canister   | 0.9      | 0.0       |            | Solidified, Inorganic Matrix | 0.00                          | Pu-240  | 1.75E-02                                |
| TAT GAMBIO  | 0.0      | 0.0       | 0.0        | Cement (Solidified)          | 0.00                          | Pu-241  | 1.97E-01                                |
| Final Form Total  | 0.9      | 0.0       | 0.9        | Vitrified                    | 0.00                          | Pu-242  | 1.08E-05                                |

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

0.00

0.00

770.00

17.00

464.00

0.00

Sr-90

U-233

U-234

U-235

U-236

U-238

### **Waste Stream Description**

Sabotage Pieces consist of materials generated during repackaging of waste generated during research and development activities conducted on sabotage testing of model casks using simulated vitrified high-level waste. This waste stream consists primarily of iron-based metals.

### **Management Comments**

#### BCLRH-T011 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                                    | 11.01                               | .,        |              |          |                              |                               |                  |                                     |
|----------|------------------------------------|-------------------------------------|-----------|--------------|----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| HQ ID    | N/A                                | Stream Name Hydraulic Room Sludge a | nd Debris |              |          |                              |                               | Invent           | ory Date 9/30/2002                  |
| Local ID | N/A                                | Handling RH Final Wa                | ste Form  | Solidified ( | Organics | Waste Matrix Code S3212      | Activity C                    | oncentrations De | ecayed to CY 2002                   |
| Final Wa | aste Form Descrip                  | otors                               |           |              |          | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
|          | gory: Defense TF olume Detail (m3) |                                     | Waste     |              |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes                   |                                     |           |              |          | Iron-Base Metal/Alloys       | 7.90                          | Am-241           | 1.34E-02                            |
| Conta    | inerType                           |                                     | Stored    | Proj.        | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Cm-244           | 5.37E-03                            |
|          | / 55 gallon                        |                                     | 2.9       | •            |          | Other Metal/Alloys           | 0.00                          | Cs-137           | 1.61E-01                            |
|          | 3                                  |                                     |           |              |          | Other Inorganic Materials    | 23.60                         | Pu-238           | 7.92E-03                            |
|          |                                    | As-Generated Total                  | 2.9       | 0.0          | 2.9      | Cellulosics                  | 40.80                         | Pu-239           | 2.98E-03                            |
| Final    | Form Volumes                       |                                     |           |              |          | Rubber                       | 7.90                          | Sr-90            | 8.70E-02                            |
|          | inerType                           |                                     | Stored    | Proj.        | Total    | Plastics                     | 40.80                         | U-234            | 5.68E-06                            |
|          | anister                            |                                     | 4.4       |              |          | Solidified, Inorganic Matrix | 0.00                          | U-235            | 2.03E-07                            |

0.0

Final Form Total

| Waste Material Parameters      |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 7.90                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 23.60                         |
| Cellulosics                    | 40.80                         |
| Rubber                         | 7.90                          |
| Plastics                       | 40.80                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 283.00                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 141.30                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 770.00                        |
| Packaging Material, Plastic    | 17.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |
|                                |                               |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.34E-02                            |
| Cm-244  | 5.37E-03                            |
| Cs-137  | 1.61E-01                            |
| Pu-238  | 7.92E-03                            |
| Pu-239  | 2.98E-03                            |
| Sr-90   | 8.70E-02                            |
| U-234   | 5.68E-06                            |
| U-235   | 2.03E-07                            |
| U-238   | 1.21E-06                            |

### **Waste Stream Description**

Hydraulic Room Sludge and Debris waste consists of rubble, sludge, and absorbent materials as well as the plastic bags that the waste is in. The hydraulic sludge was absorbed using a greater than 50% No Char and Radsorb polymers. Then the hydraulic sludge was packed in plastic bags with additional No Char, Radsob, and Floor Dry. Prior to packaging, 10 pounds of absorbent (50:50 Floor Dry and Radsorb) was added to the liner to absorb and water from condensation or dewatering

### **Management Comments**

## Waste Stream ID: BT-T001

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | BT-T001 | Stream Name | Irradiated | d TRU material waste                  |                         |               | Inventory Date 9/30/      | /2002 |
|----------|---------|-------------|------------|---------------------------------------|-------------------------|---------------|---------------------------|-------|
| Local ID | BT-T001 | Handling    | RH         | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5420 | Activity Cond | centrations Decayed to CY | 2002  |
|          |         |             |            |                                       |                         |               |                           |       |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Insert            |                    | 2.7    | 0.0   | 2.7   |
|                      | As-Generated Total | 2.7    | 0.0   | 2.7   |

| Final Form Volumes                           |        |       |       |
|--|--------|-------|-------|
| ContainerType                                | Stored | Proj. | Total |
| RH Canister used to overpack 55 gallon drums | 2.0    | 0.0   | 2.0   |
|  |        |       |       |

 Final Form Total
 2.0
 0.0
 2.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 200.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 10.00                         |
| Rubber                         | 0.00                          |
| Plastics                       | 500.00                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 1400.00                       |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                          |  |  |  |  |
|--------------------------|--------------------------|--|--|--|--|
|                          | Typical<br>Concentration |  |  |  |  |
| Isotope                  | (Ci/m3)                  |  |  |  |  |
| Am-241                   | 1.27E+00                 |  |  |  |  |
| Am-243                   | 5.96E-03                 |  |  |  |  |
| Cm-244                   | 3.82E-01                 |  |  |  |  |
| Cs-137                   | 3.22E+03                 |  |  |  |  |
| Np-237                   | 8.47E-03                 |  |  |  |  |
| Pu-238                   | 1.40E+02                 |  |  |  |  |
| Pu-239                   | 1.09E-01                 |  |  |  |  |
| Pu-240                   | 2.23E-01                 |  |  |  |  |
| Pu-241                   | 2.38E+01                 |  |  |  |  |
| Pu-242                   | 1.74E-03                 |  |  |  |  |
| Pu-244                   | 9.95E-11                 |  |  |  |  |
| Sr-90                    | 3.22E+03                 |  |  |  |  |
| Th-232                   | 8.47E-12                 |  |  |  |  |
| U-234                    | 2.98E-01                 |  |  |  |  |
| U-235                    | 3.92E-03                 |  |  |  |  |
| U-236                    | 4.47E-02                 |  |  |  |  |
| U-238                    | 1.81E-05                 |  |  |  |  |

### **Waste Stream Description**

Specimen processing fines, material, and debris.

### **Management Comments**

Bettis is not a long-term storage facility. TRU will be shipped off-site as directed by DOE-HDQ.

Original data showed 3 SWBs. Int. volume and # stored changed to more accurately reflect the waste volume of 2 m3 as follows: 2 m3 / .200 m3 / drum = 9.615 drums, rounded to 10 drums. Tb 3/27/03.

# Waste Stream ID: BT-T002 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID BT-T002 Stream Name Contaminated Piping System

Local ID BT-T002 Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Remediation/D&D Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box / |                    | 18.9   | 0.0   | 18.9  |
|                      | As-Generated Total | 18.9   | 0.0   | 18.9  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 18.6   | 0.0   | 18.6  |
|                    | 40.0   |       | 40.0  |

**Final Form Total** 18.6 0.0 18.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 430.00                        |
| Aluminum-Base Metal/Alloys     | 35.00                         |
| Other Metal/Alloys             | 1.00                          |
| Other Inorganic Materials      | 1.00                          |
| Cellulosics                    | 0.50                          |
| Rubber                         | 7.00                          |
| Plastics                       | 35.00                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| i iliai i oi ili itaulollucilues |                                     |  |  |  |  |
|----------------------------------|-------------------------------------|--|--|--|--|
| Isotope                          | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                           | 4.53E-04                            |  |  |  |  |
| Am-243                           | 2.13E-06                            |  |  |  |  |
| Cm-244                           | 1.36E-04                            |  |  |  |  |
| Cs-137                           | 1.15E+00                            |  |  |  |  |
| Np-237                           | 3.03E-06                            |  |  |  |  |
| Pu-238                           | 5.00E-02                            |  |  |  |  |
| Pu-239                           | 3.90E-05                            |  |  |  |  |
| Pu-240                           | 7.97E-05                            |  |  |  |  |
| Pu-241                           | 8.52E-03                            |  |  |  |  |
| Pu-242                           | 6.20E-07                            |  |  |  |  |
| Pu-244                           | 3.56E-14                            |  |  |  |  |
| Sr-90                            | 1.15E+00                            |  |  |  |  |
| Th-232                           | 3.03E-15                            |  |  |  |  |
| U-234                            | 1.07E-04                            |  |  |  |  |
| U-235                            | 1.40E-06                            |  |  |  |  |
| U-236                            | 1.60E-05                            |  |  |  |  |
| U-238                            | 6.46E-09                            |  |  |  |  |

#### **Waste Stream Description**

Piping, pumps, tanks, and other metal items, and debris.

### **Management Comments**

Waste volumes revised to reflect latest estimates. This waste contains no classified material. Radionuclide data generated date is 10/2002. There are no pyrochemical salts, PCB's or other materials of particular concern. Bettis is not a long term stroage facility. TRU will be shipped off-site as directed by DOE-HDQ.

# Waste Stream ID: ET-C1-B55 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | ET-W034 | Stream Name | PU Faci | lity D&D CC1-B55                     |                         |               | Inventory Date 9/30/2003       | 2 |
|----------|---------|-------------|---------|--------------------------------------|-------------------------|---------------|--------------------------------|---|
| Local ID | ET      | Handling    | СН      | Final Waste Form Solidified Organics | Waste Matrix Code S3290 | Activity Cond | centrations Decayed to CY 2002 | 2 |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                  |       |       |
|----------------------|------------------|-------|-------|
| ContainerType        | Stored           | Proj. | Total |
| Drum / 55-gallon     | 0.               | 0.0   | 0.8   |
| Δs-G                 | enerated Total 0 | 3 0.0 | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 8.0    | 0.0   | 0.8   |
|                    |                  | 1      |       |       |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 94.00                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 141.00                        |
| Plastics                       | 47.00                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 660.00                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.75E-02                            |
| Np-237  | 2.27E-07                            |
| Pu-238  | 1.26E-02                            |
| Pu-239  | 7.40E-02                            |
| Pu-240  | 3.69E-02                            |
| Pu-241  | 3.32E-01                            |
| Th-229  | 2.48E-15                            |
| Th-230  | 3.28E-08                            |
| Th-232  | 4.58E-18                            |
| U-233   | 6.20E-12                            |
| U-234   | 2.80E-04                            |
| U-235   | 9.48E-10                            |
| U-236   | 1.43E-08                            |

### **Waste Stream Description**

Generated after DOE fuel decladding operations and the clean-up of facilities. Wastes inlude soft trash (paper, plastic, rubber), vermiculite, solidified oil. Radiological contamination includes TRU (Pu-239/241/238/242,Am-241). The waste was packaged to the 1987 Idaho WIPP criteria in 4 55-gal drums. Waste stream is no longer generated.

### **Management Comments**

This W.S. was packaged to Idaho WIPP 1987 criteria. Options for shipping the waste to a suitable site are being considered by DOE.

8.71E-09

2.01E-14

U-236

U-238

37.00

0.00

0.00

## Waste Stream ID: ET-C1-D139

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         N/A         Stream Name         Pu facility D&D (C1-D139)           Local ID         ET         Handling         CH         Final Wast | te Form ⊢ | leterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-----------|-----------|-------------|------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |           |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Remediation/D&D V Waste Volume Detail (m3)   | Vaste     |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.21E-02                                |
|  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.35E-07                                |
| Drum / 55 gallon   | 0.2       | 0.0       | 0.2         | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.07E-03                                |
|  | 0.2       | 0.0       | 0.2         | Other Inorganic Materials    | 0.00                          | Pu-239     | 4.20E-02                                |
| As-Generated Total   | 0.2       | 0.0       | 0.2         | Cellulosics                  | 95.00                         | Pu-240     | 2.10E-02                                |
| Final Form Volumes   |           |           |             | Rubber                       | 31.00                         | Pu-241     | 1.78E-01                                |
|  | Stored    | Proj.     | Total       | Plastics                     | 31.00                         | Pu-242     | 9.50E-06                                |
| 55 Gallon Drum   | 0.2       | 0.0       | 0.2         | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.72E-15                                |
| oo oanon brani   | 0.2       | 0.0       | 0.2         | Cement (Solidified)          | 0.00                          | Th-230     | 1.91E-11                                |
| Final Form Total   | 0.2       | 0.0       | 0.2         | Vitrified                    | 0.00                          | Th-232     | 3.01E-18                                |
|  |           |           |             | Solidified, Organic Matrix   | 0.00                          | U-233      | 3.99E-12                                |
|  |           |           |             | Soils                        | 0.00                          | U-234      | 2.97E-07                                |
|  |           |           |             | Packaging Material, Steel    | 131.00                        | U-235      | 5.80E-10                                |

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

### **Waste Stream Description**

Heterogenous solid debris from disassembly of a glovebox.

### **Management Comments**

Originally packaged to Idaho WIPP 1987 criteria.

## Waste Stream ID: ET-C2-SEFOR

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Hot Laboratory D&D Was                                 | te (C2-SEF | OR)       |             |                                |                               | Invento    | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID ET Handling CH Final Wa   | ste Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5440        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste      |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys         | 139.00                        | Am-241     | 1.42E-01                            |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 99.00                         | Cs-137     | 1.30E-02                            |
| Drum / 55 gallon   | 1.2        | 0.0       | 1.2         | Other Metal/Alloys             | 0.00                          | Np-237     | 6.20E-07                            |
| 2.4/ 00 game   |            |           |             | Other Inorganic Materials      | 0.00                          | Pu-239     | 1.10E-01                            |
| As-Generated Total   | 1.2        | 0.0       | 1.2         | Cellulosics                    | 124.00                        | Pu-240     | 3.69E-02                            |
| Final Form Volumes   |            |           |             | Rubber                         | 10.00                         | Pu-241     | 4.59E-01                            |
| ContainerType  | Stored     | Proj.     | Total       | Plastics                       | 124.00                        | Sr-90      | 9.32E-03                            |
| 55 Gallon Drum   | 1.2        | 0.0       | 1.2         | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 8.04E-15                            |
|  |            |           |             | Cement (Solidified)            | 0.00                          | Th-232     | 5.31E-18                            |
| Final Form Total   | 1.2        | 0.0       | 1.2         | Vitrified                      | 0.00                          | U-233      | 1.85E-11                            |
|  |            |           |             | Solidified, Organic Matrix     | 0.00                          | U-235      | 1.52E-09                            |
|  |            |           |             | Soils                          | 0.00                          | U-236      | 1.53E-08                            |
|  |            |           |             | Packaging Material, Steel      | 131.00                        |            |                                     |
|  |            |           |             | Packaging Material, Plastic    | 37.00                         |            |                                     |
|  |            |           |             | Packaging Material, Lead       | 0.00                          |            |                                     |
|  |            |           |             | Packaging Material, Steel Plug | 0.00                          |            |                                     |

### **Waste Stream Description**

Heterogeneous solid debris from cleanup/ disassembly of a glovebox.

### **Management Comments**

Originally packaged to Idaho WIPP 1987 Criteria.

# Waste Stream ID: ET-R1-DLR

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A              | Stream Na | ne Hot La | boratory Drain Line Residue (R1-DLR) |                           |          |        | Inventory      | y Date 9/30/2002 | 2 |
|----------|------------------|-----------|-----------|--------------------------------------|---------------------------|----------|--------|----------------|------------------|---|
| Local ID | ET               | Handli    | ng RH     | Final Waste Form Solidified Organics | Waste Matrix Code S3900   | Activity | Concer | ntrations Deca | ayed to CY 2002  |   |
| !        |                  |           |           |                                      |                           |          |        |                |                  | _ |
| Final Wa | ste Form Descrip | otors     |           |                                      | Waste Material Parameters |          |        | Final Form Ra  | adionuclides     |   |
| Categ    | gory: Defense TF | RU Waste  | Source:   | Remediation/D&D Waste                |                           | Average  |        |                | Typical          | ٦ |

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 2.7    | 0.0   | 2.7   |
| RH Canister        |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 4.1    | 0.0   | 4.1   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 103.60                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 212.70                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.00                        |
| Packaging Material, Plastic    | 26.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form | Radionucildes                       |
|------------|-------------------------------------|
| Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| Am-241     | 2.28E-02                            |
| Cs-137     | 2.37E+00                            |
| Np-237     | 5.80E-08                            |
| Pu-238     | 3.59E-03                            |
| Pu-239     | 1.47E-01                            |
| Pu-240     | 2.73E-02                            |
| Pu-241     | 8.50E-02                            |
| Sr-90      | 2.30E+00                            |
| Th-229     | 2.46E-16                            |
| Th-230     | 3.50E-12                            |
| Th-232     | 1.28E-18                            |
| U-233      | 9.90E-13                            |
| U-234      | 9.63E-08                            |
| U-235      | 2.18E-04                            |
| U-236      | 6.47E-09                            |
| U-238      | 5.45E-04                            |
|            |                                     |

### **Waste Stream Description**

Steel and fuel element fines from fuel declad grinding and cutting operations, plus sand, dirt, grinding materials, and concrete/dust particulate.

### **Management Comments**

# Waste Stream ID: ET-R2-D107 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID ET-W002 Stream Name Hot Lab & PU Facility D&D (R2-D107) Inventory Date 9/30/2002

Local ID ET Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55-gallon     |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

|                  | Stored           | Proj. | Total   |
|------------------|------------------|-------|---------|
|                  | 0.9              | 0.0   | 0.9     |
| Final Form Total | 0.9              | 0.0   | 0.9     |
|                  | Final Form Total | 0.9   | 0.9 0.0 |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 29.00                         |
| Aluminum-Base Metal/Alloys     | 19.20                         |
| Other Metal/Alloys             | 67.80                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 19.20                         |
| Rubber                         | 0.00                          |
| Plastics                       | 9.80                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 48.60                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.00                        |
| Packaging Material, Plastic    | 26.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.20E-01                            |
| Cs-137  | 5.75E-02                            |
| Np-237  | 2.71E-06                            |
| Pu-239  | 5.19E-01                            |
| Pu-240  | 1.82E-01                            |
| Pu-241  | 2.10E+00                            |
| Sr-90   | 4.02E-02                            |
| Th-229  | 3.51E-14                            |
| Th-232  | 2.61E-17                            |
| U-233   | 8.08E-11                            |
| U-235   | 7.16E-09                            |
| U-236   | 7.55E-08                            |

### **Waste Stream Description**

Generated after DOE fuel decladding operations and the clean-up of facilities. Waste consists of a single 85-lb lead brick with surface transuranic contamination with other lead shielding and other waste (metals, filter, vermiculite and trash). Radiological contamination includes fission (Cs-137, Sr-90) and TRU (Pu-238/242/239/241, Am-241). The waste was packaged to the 1987 Idaho WIPP criteria in a single 55-gal drum. Waste stream is no longer generated.

#### **Management Comments**

This W.S. was packaged to Idaho WIPP 1987 criteria. ETEC has no longer the capability (hot cell of glove box) to package TRU contaminated materials.

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name RH-TRU Wastes Local ID ID-AEO-104, -107 Handling RH Final Wa | ste Form   | -leterogen | eous Debris | Waste Matrix Code S5400      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|------------|------------|-------------|------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |            |            |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3)        | tory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |            |            |             | Iron-Base Metal/Alloys       | 85.69                         | Am-241     | 1.59E-03                                |
| ContainerType  | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     | 1.06E+00                                |
| Drum / 30 gallon   |            | 0.0        |             | Other Metal/Alloys           | 3.07                          | Np-237     | 1.92E-09                                |
|  |            |            |             | Other Inorganic Materials    | 5.00                          | Pu-239     | 1.03E-01                                |
| As-Generated Total   | 70.8       | 0.0        | 70.8        | Cellulosics                  | 16.30                         | Pu-240     | 4.15E-02                                |
| Final Form Volumes   |            |            |             | Rubber                       | 3.80                          | Pu-241     | 1.20E-01                                |
| ContainerType  | Stored     | Proj.      | Total       | Plastics                     | 10.30                         | Th-229     | 3.32E-18                                |
| RH Canister  | 184.2      | 0.0        |             | Solidified, Inorganic Matrix | 0.00                          | Th-232     | 1.49E-18                                |
| . 4.7 54.1166.   | l          |            | <u>_</u>    | Cement (Solidified)          | 0.00                          | U-233      | 1.98E-14                                |
| Final Form Total   | 184.2      | 0.0        | 184.2       | Vitrified                    | 0.00                          | U-235      | 7.07E-06                                |
|  |            |            |             | Solidified, Organic Matrix   | 0.00                          | U-236      | 8.61E-09                                |
|  |            |            |             | Soils                        | 0.00                          |            |   |
|  |            |            |             | Packaging Material, Steel    | 498.00                        |            |   |
|  |            |            |             | Packaging Material, Plastic  | 0.00                          |            |   |
|  |            |            |             | Packaging Material, Lead     | 464.00                        |            |   |

#### **Waste Stream Description**

This waste stream, generated at Argonne National Laboratory-East, contains alpha gamma hot cell waste. Noncombustible and combustible waste are segregated. Combustible wastes include paper, plastic and PVC containers, rubber O-rings and gloves, rags, and Q-tips. Noncombustible wastes include lab equipment, tools, fixtures, glassware, pipe, tubing, fitting, fasteners, firebrick, ferrous and nonferrous metal scraps and parts, and small electric motors. Sodium in the waste is reacted with ethyl alcohol, mixed with pelletized clay, and dried. Nitrates and oxidizing agents are neutralized or reduced, mixed with pelletized clay, and dried to ferrous or ferric salts.

Packaging Material, Steel Plug

0.00

The average organic content is 80 kg/m3. The combustible content of some containers exceeds 25 volume percent, including packaging. Fines are within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste. Surface contamination and nuclear criticality meet WIPP-WAC limits. Thermal power does not exceed 10 watts per package. Surface dose rates average 5.3 R/hr and are limited to 30 R/hr. The waste is packaged in 30 gallon drums.

The waste material parameter data for cellulosic, plastic, and rubber (CPR) proveded in the original submittal was 16 kg/m3. The difference between this and the CPR data in the CRA-2004 is due to a re-calculation of the final form waste volume to account for payload containers.

#### **Management Comments**

This WS incorporates old WTWBIR WS Ids: IN-W259.921, IN-W349.667, IN-W349.924

## Waste Stream ID: IN-AW-161

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Analytical Chemistry Lab                                      |        |       | eous Debris | Waste Matrix Code S5400        | Activity Cor                  |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|--------|-------|-------------|--------------------------------|-------------------------------|---------|---|
| Final Waste Form Descriptors  | _      |       |             | Waste Material Parameters      | , .c, cc.                     |         | Radionuclides                           |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces  |       |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |        |       |             | Iron-Base Metal/Alloys         | 1584.00                       | Cs-137  | 7.15E-01                                |
| ContainerType   | Stored | Proj. | Total       | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239  | 2.77E+00                                |
| Drum / 30 gallon  | 0.9    | 0.0   | 0.9         | Other Metal/Alloys             | 0.00                          | Pu-240  | 5.91E-02                                |
|   |        |       |             | Other Inorganic Materials      | 515.00                        | Th-232  | 2.12E-18                                |
| As-Generated Total  | 0.9    | 0.0   | 0.9         | Cellulosics                    | 240.00                        | U-235   | 1.64E-06                                |
| Final Form Volumes  |        |       |             | Rubber                         | 0.00                          | U-236   | 1.23E-08                                |
| ContainerType   | Stored | Proj. | Total       | Plastics                       | 191.00                        |         |   |
| RH Canister used to overpack 30 gallon drums  | 0.9    | 0.0   | 0.9         | Solidified, Inorganic Matrix   | 0.00                          |         |   |
|   | l      |       |             | Cement (Solidified)            | 0.00                          |         |   |
| Final Form Total  | 0.9    | 0.0   | 0.9         | Vitrified                      | 0.00                          |         |   |
|   |        |       |             | Solidified, Organic Matrix     | 0.00                          |         |   |
|   |        |       |             | Soils                          | 0.00                          |         |   |
|   |        |       |             | Packaging Material, Steel      | 109.00                        |         |   |
|   |        |       |             | Packaging Material, Plastic    | 0.00                          |         |   |
|   |        |       |             | Packaging Material, Lead       | 0.00                          |         |   |
|   |        |       |             | Packaging Material, Steel Plug | 0.00                          |         |   |

### **Waste Stream Description**

This waste stream was generated at Argonne National Laboratory-West at the INEL. These wastes consist of glassware, paper, poly, and miscellaneous hardware generated during analytical chemistry laboratory operations.

### **Management Comments**

## Waste Stream ID: IN-BN-510

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| ocal ID N/A Handling CH Final Was                      | te Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5490        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|-----------|-----------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                           |           |           |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | rces      |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |           |           |             | Iron-Base Metal/Alloys         | 261.10                        | Am-241          | 3.74E-01                            |
| ContainerType  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 20.67                         | Am-243          | 3.22E-07                            |
| Bin  | 1802.5    | 0.0       | 1802.5      | Other Metal/Alloys             | 154.43                        | Np-237          | 1.13E-05                            |
| Box / Misc.  | 32644.7   | 0.0       | 32644.7     | Other Inorganic Materials      | 65.22                         | Pu-238          | 2.54E+00                            |
| Drum / 55 gallon                                       | 12016.2   | 0.0       |             | Cellulosics                    | 302.67                        | Pu-239          | 2.00E+00                            |
|  |           |           |             | Rubber                         | 79.91                         | Pu-240          | 1.70E-01                            |
| As-Generated Total                                     | 46463.3   | 0.0       | 46463.3     | Plastics                       | 204.54                        | Pu-241          | 3.95E-03                            |
| Final Form Volumes                                     |           |           |             | Solidified, Inorganic Matrix   | 0.00                          | Pu-242          | 5.66E-04                            |
| ContainerType  | Stored    | Proj.     | Total       | Cement (Solidified)            | 0.00                          | Th-229          | 5.41E-05                            |
| 100 gallon drum  | 19874.8   | 0.0       | 19874.8     | Vitrified                      | 0.00                          | Th-230          | 5.86E-09                            |
|  |           |           |             | Solidified, Organic Matrix     | 0.00                          | Th-232          | 3.30E-04                            |
| Final Form Total                                       | 19874.8   | 0.0       | 19874.8     | Soils                          | 0.00                          | U-233           | 4.44E-02                            |
|  |           |           |             | Packaging Material, Steel      | 119.68                        | U-234           | 9.85E-05                            |
|  |           |           |             | Packaging Material, Plastic    | 0.00                          | U-235           | 3.98E-06                            |
|  |           |           |             | Packaging Material, Lead       | 0.00                          | U-236           | 6.55E-08                            |
|  |           |           |             | Packaging Material, Steel Plug | 0.00                          | U-238           | 1.14E-06                            |

SUPERCOMPACTED DEBRIS WASTE

**Management Comments** 

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Glovebox Excavator Meth                            | nod Project | Soils and                               | Sludge |                              |                               | Invent         | ory Date 9/30/2002                  |
|--|-------------|---|--------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Soils                                   |        | Waste Matrix Code S4000      | Activity Cor                  | centrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors   |             |   |        | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: INEEL Pit 9 Waste Volume Detail (m3) |             |   |        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |   |        | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 4.50E-01                            |
| ContainerType  | Stored      | Proj.                                   | Total  | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238         | 4.88E-03                            |
| Drum / 55 gallon   | 0.0         | 97.1                                    |        | Other Metal/Alloys           | 0.50                          | Pu-239         | 2.18E-01                            |
|  | <u> </u>    |   |        | Other Inorganic Materials    | 59.40                         | Pu-240         | 5.00E-02                            |
| As-Generated Total   | 0.0         | 97.1                                    | 97.1   | Cellulosics                  | 0.00                          | Pu-241         | 2.70E-01                            |
| Final Form Volumes   |             |   |        | Rubber                       | 0.00                          | Pu-242         | 2.57E-06                            |
| ContainerType  | Stored      | Proj.                                   | Total  | Plastics                     | 0.00                          |                |                                     |
| 55 Gallon Drum   | 0.0         | 97.1                                    | 97.1   | Solidified, Inorganic Matrix | 97.88                         |                |                                     |
| 55 54.15.1 2.4.11  |             | • |        | Cement (Solidified)          | 116.58                        |                |                                     |
| Final Form Total   | 0.0         | 97.1                                    | 97.1   | Vitrified                    | 0.00                          |                |                                     |
|  |             |   |        | Solidified, Organic Matrix   | 224.00                        |                |                                     |
|  |             |   |        | Soils                        | 947.70                        |                |                                     |
|  |             |   |        | Packaging Material, Steel    | 168.00                        |                |                                     |

### **Waste Stream Description**

Waste consists of soils (approximately 60%) and associated sludge type wastes to be generated through environmental restoration activities at the Idaho National Engineering Laboratory's Subsurface Disposal Area (Pit 9). The sludge waste originated at the Rocky Flats Plant from various treatment processes in building 774. Sludge wastes included in the waste stream correspond to the following ID numbers: IN-W216, First Stage Sludge; IN-W228, Second Stage Sludge; IN-W309, Organic Setups Oil Solids; IN-W157, Special Setups (Cement); IN-W315, Evaporator Salts; IN-W276, Graphite. Graphite waste generated at the Rocky Flats Plant for casting plutonium metal is also included in the overall waste stream. The originally disposed sludges, graphite and surrounding soils are packaged in a single waste stream through environmental restoration retrieval and repackaging activities.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

0.00

0.00

### **Management Comments**

## Waste Stream ID: IN-GEM-02

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Glovebox Excavator Met                     | hod Project | Heteroge  | neous Debris. |                              |                               | Invent         | ory Date 9/30/2002                  |
|--|-------------|-----------|---------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa                                | aste Form   | Heterogen | eous Debris   | Waste Matrix Code S5000      | Activity Con                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |             |           |               | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |           |               | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |               | Iron-Base Metal/Alloys       | 17.30                         | Am-241         | 4.50E-01                            |
| ContainerType  | Stored      | Proj.     | Total         | Aluminum-Base Metal/Alloys   | 1.13                          | Pu-238         | 4.88E-03                            |
| Drum / 55 gallon   | 0.0         | 23.1      |               | Other Metal/Alloys           | 58.00                         | Pu-239         | 2.18E-01                            |
| 2.4 00 34  |             |           |               | Other Inorganic Materials    | 13.56                         | Pu-240         | 5.00E-02                            |
| As-Generated Total   | 0.0         | 23.1      | 23.1          | Cellulosics                  | 41.00                         | Pu-241         | 2.70E-01                            |
| Final Form Volumes   |             |           |               | Rubber                       | 17.43                         | Pu-242         | 2.57E-06                            |
| ContainerType  | Stored      | Proj.     | Total         | Plastics                     | 63.27                         |                |                                     |
| 55 Gallon Drum   | 0.0         | 23.1      | 23.1          | Solidified, Inorganic Matrix | 0.00                          |                |                                     |
|  |             |           |               | Cement (Solidified)          | 0.00                          |                |                                     |
| Final Form Total   | 0.0         | 23.1      | 23.1          | Vitrified                    | 0.00                          |                |                                     |
|  |             |           |               | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|  |             |           |               | Soils                        | 0.00                          |                |                                     |
|  |             |           |               | Packaging Material, Steel    | 168.00                        |                |                                     |
|  |             |           |               | Packaging Material, Plastic  | 0.00                          |                |                                     |

### **Waste Stream Description**

Waste consists of combustible and noncombustible heterogeneous debris generated through environmental restoration activities at the INEEL Subsurface disposal area (Pit 9). The debris includes drum remnants of sludge waste packaging material that originated at the Rocky Flats Plant from various treatment processes in building 774. Original packaging material (if still present) are segregated during retrieval operations and combined with noncombustible and combustible debris streams that originated at the Rocky Flats Plant. The original noncombustible and combustible debris streams are similar to the following ID numbers: IN-W169, dry Paper and Rags; IN-W278, Low Specific Activity Metal, Glass Etc.; and IN-W296, Non special Source Metal. The materials are combined in a single waste stream through environmental restoration retrieval repackaging activities.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

### **Management Comments**

Waste Stream ID: IN-ICP-002 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID N/A Stream Name Idaho Completion Proje    | ct - Inorganio | Sludge (7     | '41 and 742 | series)                        |                               | Inventory Date 9/30/2003       |
|---|----------------|---------------|-------------|--------------------------------|-------------------------------|--------------------------------|
| Local ID N/A Handling CH Final W                | aste Form      | Solidified Ir | norganics   | Waste Matrix Code S3900        | Activity Con                  | centrations Decayed to CY 2002 |
| Final Waste Form Descriptors                    |                |               |             | Waste Material Parameters      |                               | No Final Form                  |
| Category: Defense TRU Waste Source: INEEL Pit 4 |                |               |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided         |
| Waste Volume Detail (m3)                        |                |               |             | Iron-Base Metal/Alloys         | 0.00                          |                                |
| As-Generated Volumes                            |                |               |             | Aluminum-Base Metal/Alloys     | 0.00                          |                                |
| ContainerType                                   | Stored         | Proj.         | Total       | Other Metal/Alloys             | 0.00                          |                                |
| Not contained                                   | 5652.0         | 0.0           | 5652.0      | Other Inorganic Materials      | 14.49                         |                                |
| As-Generated Tota                               | 5652.0         | 0.0           | 5652.0      | Cellulosics                    | 0.00                          |                                |
| As-Generated Total                              | 3032.0         | 0.0           | 3032.0      | Rubber                         | 0.00                          |                                |
| Final Form Volumes                              |                |               |             | Plastics                       | 1.99                          |                                |
| ContainerType                                   | Stored         | Proj.         | Total       | Solidified, Inorganic Matrix   | 127.17                        |                                |
| 55 Gallon Drum                                  | 0.0            | 8308.1        | 8308.1      | Cement (Solidified)            | 0.00                          |                                |
| Final Form Tota                                 | 0.0            | 8308.1        | 8308.1      | Vitrified                      | 0.00                          |                                |
| Filiai Folili Tota                              | 0.0            | 0000.1        | 0000.1      | Solidified, Organic Matrix     | 0.00                          |                                |
|   |                |               |             | Soils                          | 947.70                        |                                |
|   |                |               |             | Packaging Material, Steel      | 131.00                        |                                |
|   |                |               |             | Packaging Material, Plastic    | 37.00                         |                                |
|   |                |               |             | Packaging Material, Lead       | 0.00                          |                                |
|   |                |               |             | Packaging Material, Steel Plug | 0.00                          |                                |

### **Waste Stream Description**

Pre-1970 buried waste retrieved for the Idaho Completion Project

### **Management Comments**

Waste material parameters were taken from IN-228.101 - solidified inorganic second stage sludge, with the addition of soil (50% by volume). The waste will be placed into 55-gallon drum lliners and filled with approximately .142 m3 (5 ft3) of waste. The liner will then be placed into plastic transfer bags that will go into the 55-gallon drum.

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Idaho Completion Project         | t - Organic  | Sludge       |          |                              |                               | Inventory Date 11/5/2004       |
|--|--------------|--------------|----------|------------------------------|-------------------------------|--------------------------------|
| Local ID N/A Handling CH Final Wa                      | ste Form     | Solidified ( | Organics | Waste Matrix Code S3900      | Activity Con                  | centrations Decayed to CY 2002 |
| Final Waste Form Descriptors                           |              |              |          | Waste Material Parameters    |                               | No Final Form                  |
| Category: Defense TRU Waste Source: INEEL Pit 1, 2, 4, | 5, 6, 9, and | 10           |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided         |
| Waste Volume Detail (m3)                               |              |              |          | Iron-Base Metal/Alloys       | 0.00                          |                                |
| As-Generated Volumes                                   |              |              |          | Aluminum-Base Metal/Alloys   | 0.00                          |                                |
| ContainerType  | Stored       | Proj.        | Total    | Other Metal/Alloys           | 0.00                          |                                |
| Not contained  | 2383.0       | 0.0          | 2383.0   | Other Inorganic Materials    | 0.00                          |                                |
| As Conserted Total                                     | 2383.0       | 0.0          | 2383.0   | Cellulosics                  | 0.00                          |                                |
| As-Generated Total                                     | 2303.0       | 0.0          | 2303.0   | Rubber                       | 0.00                          |                                |
| Final Form Volumes                                     |              |              |          | Plastics                     | 166.75                        |                                |
| ContainerType  | Stored       | Proj.        | Total    | Solidified, Inorganic Matrix | 955.49                        |                                |
| 55 Gallon Drum   | 0.0          | 3503.1       | 3503.1   | Cement (Solidified)          | 0.00                          |                                |
| Final Form Total                                       | 0.0          | 3503.1       | 3503.1   | Vitrified                    | 0.00                          |                                |
| Final Form Total                                       | 0.0          | 3303.1       | 3303.1   | Solidified, Organic Matrix   | 1032.33                       |                                |
|  |              |              |          | Soils                        | 947.70                        |                                |
|  |              |              |          | Packaging Material, Steel    | 131.00                        |                                |
|  |              |              |          | Packaging Material, Plastic  | 37.00                         |                                |

### **Waste Stream Description**

Pre-1970 buried waste retrieved for the Idaho Completion Project

### **Management Comments**

Waste material parameters are based on OASIS waste stream at RFETS - RF-MT0801 with soils (50% by volume), reported in IN-GEM-01, and standard packaging materials. The waste will be placed into 55-gallon drum liners and filled with approximately .142 m3 (5 ft3) of waste. The liner will then be placed into plastic transfer bags that will go into the 55-gallon drum.

Packaging Material, Lead
Packaging Material, Steel Plug

0.00

0.00

Waste Stream ID: IN-ICP-004 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Idaho Completion Project         | - Graphite   | ;         |             |                                |                               | Inventory Date 11/5/2004        |
|--|--------------|-----------|-------------|--------------------------------|-------------------------------|---------------------------------|
| Local ID N/A Handling CH Final Wa                      | ste Form     | Heterogen | eous Debris | Waste Matrix Code S5400        | Activity Co                   | ncentrations Decayed to CY 2002 |
| Final Waste Form Descriptors                           |              |           |             | Waste Material Parameters      |                               | No Final Form                   |
| Category: Defense TRU Waste Source: INEEL Pit 1, 2, 4, | 5, 6, 9, and | d 10      |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste Volume Detail (m3)                               |              |           |             | Iron-Base Metal/Alloys         | 0.00                          |                                 |
| As-Generated Volumes                                   |              |           |             | Aluminum-Base Metal/Alloys     | 0.00                          |                                 |
| ContainerType  | Stored       | Proj.     | Total       | Other Metal/Alloys             | 0.00                          |                                 |
| Not contained  | 491.0        | 0.0       | 491.0       | Other Inorganic Materials      | 59.40                         |                                 |
| As Compressed Total                                    | 491.0        | 0.0       | 491.0       | Cellulosics                    | 0.00                          |                                 |
| As-Generated Total                                     | 491.0        | 0.0       | 491.0       | Rubber                         | 0.00                          |                                 |
| Final Form Volumes                                     |              |           |             | Plastics                       | 0.00                          |                                 |
| ContainerType  | Stored       | Proj.     | Total       | Solidified, Inorganic Matrix   | 97.88                         |                                 |
| 55 Gallon Drum   | 0.0          | 722.2     | 722.2       | Cement (Solidified)            | 0.00                          |                                 |
| Final Form Total                                       | 0.0          | 722.2     | 722.2       | Vitrified                      | 0.00                          |                                 |
| Filiai Foriii Totai                                    | 0.0          | 122.2     | 122.2       | Solidified, Organic Matrix     | 224.00                        |                                 |
|  |              |           |             | Soils                          | 947.70                        |                                 |
|  |              |           |             | Packaging Material, Steel      | 131.00                        |                                 |
|  |              |           |             | Packaging Material, Plastic    | 37.00                         |                                 |
|  |              |           |             | Packaging Material, Lead       | 0.00                          |                                 |
|  |              |           |             | Packaging Material, Steel Plug | 0.00                          |                                 |

### **Waste Stream Description**

Pre-1970 buried waste retrieved for the Idaho Completion Project

### **Management Comments**

The waste material parameters were taken from IN-GEM-01, a graphite-containing waste stream with soils (50% by volume) and standard packaging added. The waste will be placed in 55-gallon drum liners and filled with approximately .142 m3 (5 ft3) of waste. The liner will then be placed into plastic transfer bags that will go into the 55-gallon drum.

# TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A               | Stream Name Idaho Completion Proje | ect - Filters  |           |             |                              |                               | Inventory Date 11/5/2004        |
|----------|-------------------|------------------------------------|----------------|-----------|-------------|------------------------------|-------------------------------|---------------------------------|
| ocal ID  | N/A               | Handling CH Final V                | Vaste Form     | Heterogen | eous Debris | Waste Matrix Code S5400      | Activity Co                   | ncentrations Decayed to CY 2002 |
| Final Wa | ste Form Descrip  | otors                              |                |           |             | Waste Material Parameters    |                               | No Final Form                   |
|          | gory: Defense T   |                                    | 4, 5, 6, 9, an | d 10      |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Radionuclides Provided          |
| Waste V  | olume Detail (m3) |                                    |                |           |             | Iron-Base Metal/Alloys       | 0.06                          |                                 |
| As-Ge    | enerated Volumes  |                                    |                |           |             | Aluminum-Base Metal/Alloys   | 8.59                          |                                 |
| Conta    | inerType          |                                    | Stored         | Proj.     | Total       | Other Metal/Alloys           | 0.42                          |                                 |
| Not co   | ntained           |                                    | 3278.0         | 0.0       | 3278.0      | Other Inorganic Materials    | 22.28                         |                                 |
|          |                   | As-Generated Tota                  | al 3278.0      | 0.0       | 3278.0      | Cellulosics                  | 137.66                        |                                 |
|          |                   | As-Generated 10ta                  | 3276.0         | 0.0       | 3276.0      | Rubber                       | 0.08                          |                                 |
| Final    | Form Volumes      |                                    |                |           |             | Plastics                     | 7.28                          |                                 |
| Conta    | inerType          |                                    | Stored         | Proj.     | Total       | Solidified, Inorganic Matrix | 0.00                          |                                 |
| 55 Ga    | llon Drum         |                                    | 0.0            | 4819.2    | 4819.2      | Cement (Solidified)          | 0.00                          |                                 |
|          |                   | Final Form Tota                    | al 0.0         | 4819.2    | 4819.2      | Vitrified                    | 0.00                          |                                 |
|          |                   | rinai romi 10ta                    | 0.0            | 4019.2    | 4619.2      | Solidified, Organic Matrix   | 0.00                          |                                 |
|          |                   |                                    |                |           |             | Soils                        | 947.70                        |                                 |
|          |                   |                                    |                |           |             | Packaging Material, Steel    | 131.00                        |                                 |
|          |                   |                                    |                |           |             | Packaging Material, Plastic  | 37.00                         |                                 |
|          |                   |                                    |                |           |             | Packaging Material, Lead     | 0.00                          |                                 |

### **Waste Stream Description**

Pre-1970 buried waste retrieved for the Idaho Completion Project

### **Management Comments**

Waste material parameters from filter debris waste stream that has been emplaced - IN-W211.001 with soils added from IN-GEM-01 (50% by volume). The waste will be placed into 55-gllon drum liners and filled with approximately .142m3 (5ft3) of wawste. The liner will then be placed into plastic transfer bags that will go into the 55-gallon drum.

Packaging Material, Steel Plug

0.00

464.00

0.00

U-236

U-238

6.54E-08

1.19E-12

## Waste Stream ID: IN-INTEC-SFS-01

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Solidified Fuel Sludge           |          |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID ID-CPP-151 Handling RH Final Was              | ste Form | Solidified I | norganics | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                           |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | irces    |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |          |              |           | Iron-Base Metal/Alloys       | 111.95                        | Am-241     | 6.54E-01                            |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137     | 5.75E+00                            |
| Drum / 30 gallon                                       | 0.2      | 0.0          | 0.2       | Other Metal/Alloys           | 160.11                        | Np-237     | 7.88E-07                            |
|  |          |              |           | Other Inorganic Materials    | 30.74                         | Pu-238     | 2.24E+00                            |
| As-Generated Total                                     | 0.2      | 0.0          | 0.2       | Cellulosics                  | 0.00                          | Pu-239     | 2.72E-01                            |
| Final Form Volumes                                     |          |              |           | Rubber                       | 0.00                          | Pu-240     | 3.15E-01                            |
| ContainerType  | Stored   | Proj.        | Total     | Plastics                     | 13.58                         | Pu-241     | 4.92E+01                            |
| RH Canister  | 0.9      | 0.0          | 0.9       | Solidified, Inorganic Matrix | 0.00                          | Pu-242     | 1.13E-03                            |
|  | l l      |              |           | Cement (Solidified)          | 0.00                          | Th-229     | 1.36E-15                            |
| Final Form Total                                       | 0.9      | 0.0          | 0.9       | Vitrified                    | 0.00                          | Th-230     | 1.46E-09                            |
|  |          |              |           | Solidified, Organic Matrix   | 0.00                          | Th-232     | 1.13E-17                            |
|  |          |              |           | Soils                        | 0.00                          | U-233      | 8.13E-12                            |
|  |          |              |           | Packaging Material, Steel    | 498.00                        | U-234      | 4.58E-05                            |
|  |          |              |           | Packaging Material Plastic   | 0.00                          | U-235      | 9.66F-06                            |

#### **Waste Stream Description**

This waste stream was generated at the Idaho Chemical Processing Plant at the INEEL, and may include both combustibles and noncombustibles. The waste includes a solidified sludge of acid-dissolved fuel, absorbed into diatomaceous earth. Other materials in the wastes include glass containers, plastics, metal scraps, lead shielding, and lab equipment.

The waste is contained in two 30-gallon drums. At least one of the drums may be lead-lined. The sludge is contained in glass bottles and sealed inside metal cans. Other materials may include glass containers, plastics, metal, scraps, lead shielding, and miscellaneous laboratory equipment. The surface dose rate is limited to 30 R/hr.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

This waste stream was previously reported under IN-W257.

# Waste Stream ID: IN-NRF-153

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

|   | TAOIL L  | AOLLII    | TE IIIVEITIC | THE WASTE I NOTICE           |                               |            |                                     |
|---|----------|-----------|--------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID N/A Stream Name Combustible Lab Waste   |          |           |              |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID ID-NRF-153 Handling RH Final Wa  | ste Form | leterogen | eous Debris  | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |           |              | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |           |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |              | Iron-Base Metal/Alloys       | 3.59                          | Am-241     | 5.31E-04                            |
| ContainerType   | Stored   | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 6.39E-10                            |
| Drum / 30 gallon  | 3.2      | 0.0       | 3.2          | Other Metal/Alloys           | 21.52                         | Pu-238     | 3.40E-02                            |
|   | <u> </u> |           |              | Other Inorganic Materials    | 1.08                          | Pu-239     | 4.05E-04                            |
| As-Generated Total  | 3.2      | 0.0       | 3.2          | Cellulosics                  | 2.15                          | Pu-240     | 4.38E-04                            |
| Final Form Volumes  |          |           |              | Rubber                       | 1.43                          | Pu-241     | 3.99E-02                            |
| ContainerType   | Stored   | Proj.     | Total        | Plastics                     | 1.79                          | Pu-242     | 1.45E-06                            |
| RH Canister   | 8.9      | 0.0       | 8.9          | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.10E-18                            |
|   |          |           | <u>-</u>     | Cement (Solidified)          | 0.00                          | Th-230     | 2.20E-11                            |
| Final Form Total  | 8.9      | 0.0       | 8.9          | Vitrified                    | 0.00                          | Th-232     | 1.57E-20                            |
|   |          |           |              | Solidified, Organic Matrix   | 0.00                          | U-233      | 6.60E-15                            |
|   |          |           |              | Soils                        | 0.00                          | U-234      | 6.94E-07                            |
|   |          |           |              | Packaging Material, Steel    | 498.00                        | U-235      | 5.92E-06                            |
|   |          |           |              | Packaging Material, Plastic  | 0.00                          | U-236      | 9.08E-11                            |

### **Waste Stream Description**

The waste materials include process equipment from the hot cells, various size containers (50 ml to 8 gal), various plastic and paper products, wooden handles, and various woven fabric materials.

Packaging Material, Lead

Packaging Material, Steel Plug

464.00

0.00

U-238

1.53E-15

### **Management Comments**

## Waste Stream ID: IN-TRA-150

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Laboratory Waste                                      |             |                                       |             |                                |                               | Invent     | ory Date 9/30/2002                  |
|---|-------------|---------------------------------------|-------------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID ID-TRA-150 Handling RH Final W                                     | aste Form   | Heterogen                             | eous Debris | Waste Matrix Code S5400        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |                                       |             | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labor  Waste Volume Detail (m3) | atory Waste | e                                     |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |                                       |             | Iron-Base Metal/Alloys         | 0.00                          | Am-241     | 1.08E+01                            |
| ContainerType   | Stored      | Proj.                                 | Total       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 2.46E-05                            |
| Drum / 55 gallon  | 2.3         |                                       | 2.3         | Other Metal/Alloys             | 343.00                        | Pu-238     | 1.19E+01                            |
|   |             |                                       |             | Other Inorganic Materials      | 22.00                         | Th-229     | 8.11E-14                            |
| As-Generated Total  | 2.3         | 0.0                                   | 2.3         | Cellulosics                    | 0.00                          | Th-230     | 7.73E-09                            |
| Final Form Volumes  |             |                                       |             | Rubber                         | 0.00                          | U-233      | 3.70E-10                            |
| ContainerType   | Stored      | Proj.                                 | Total       | Plastics                       | 41.00                         | U-234      | 2.43E-04                            |
| RH Canister used to overpack 55 gallon drums                                | 2.7         |                                       | 2.7         | Solidified, Inorganic Matrix   | 0.00                          |            |                                     |
|   |             | · · · · · · · · · · · · · · · · · · · |             | Cement (Solidified)            | 0.00                          |            |                                     |
| Final Form Total  | 2.7         | 0.0                                   | 2.7         | Vitrified                      | 0.00                          |            |                                     |
|   |             |                                       |             | Solidified, Organic Matrix     | 0.00                          |            |                                     |
|   |             |                                       |             | Soils                          | 0.00                          |            |                                     |
|   |             |                                       |             | Packaging Material, Steel      | 109.00                        |            |                                     |
|   |             |                                       |             | Packaging Material, Plastic    | 0.00                          |            |                                     |
|   |             |                                       |             | Packaging Material, Lead       | 0.00                          |            |                                     |
|   |             |                                       |             | Packaging Material, Steel Plug | 0.00                          |            |                                     |

### **Waste Stream Description**

Unknown

### **Management Comments**

#### Appendix J Waste Stream ID: **IN-TRA-157**

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                           | 1110 1   |           |           |             |                            |                               |            |   |
|---------------------------|--|-----------|-----------|-------------|----------------------------|-------------------------------|------------|---|
| HQ ID Local ID            | N/A Stream Name Miscellaneous Sources TRA-157 Handling RH Final Wa | ste Form  | Uncategor | rized Metal | Waste Matrix Code S3100    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Fo            | orm Descriptors  |           |           |             | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category:<br>Waste Volume | Defense TRU Waste Source: Source Information  Detail (m3)          | n Not Com | piled     |             | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generate               | ed Volumes   |           |           |             | Iron-Base Metal/Alloys     | 236.00                        | Am-241     | 5.21E-02                                |
| ContainerTy               |  | Stored    | Proi.     | Total       | Aluminum-Base Metal/Alloys | 0.00                          | Cs-137     | 6.98E-02                                |
| Drum / 55 ga              | •  | 3.1       | 0.0       |             | Other Metal/Alloys         | 338.00                        | Np-237     | 1.19E-07                                |
|                           | ***  |           |           |             | Other Inorganic Materials  | 65.00                         | Pu-238     | 4.39E-02                                |
|                           | As-Generated Total   | 3.1       | 0.0       | 3.1         | Callulacios                | 0.00                          | Du 220     | 1 22E 02                                |

#### Final Form Volumes Total Stored Proj. RH Canister used to overpack 55 gallon drums 3.6 0.0 3.6 3.6 Final Form Total 3.6 0.0

### Cellulosics 0.00 Rubber 0.00 Plastics 29.00 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 Vitrified 0.00 Solidified, Organic Matrix 0.00 0.00 Soils Packaging Material, Steel 109.00 Packaging Material, Plastic 0.00 Packaging Material, Lead 0.00 Packaging Material, Steel Plug 0.00

Pu-239 1.22E-03 Th-229 3.92E-16 Th-230 2.85E-11 U-233 1.79E-12 U-234 8.97E-07 U-235 8.42E-12

### **Waste Stream Description**

ContainerType

Naval Reactor Facility combustible lab waste

### **Management Comments**

Waste Stream ID: IN-W157.144 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | IN-W157<br>ID-RFO-004T | Stream Name SPECIAL Handling CH | SETUPS (CEMENT):Direc      |             | Organics |   | Waste Matrix Code S3150    | Activity C                    |            | tory Date 9/30/2002<br>ecayed to CY 2002 |
|-------------------|------------------------|---------------------------------|----------------------------|-------------|----------|---|----------------------------|-------------------------------|------------|--|
| Final Wa          | aste Form Descript     | iors                            |                            |             |          |   | Waste Material Parameters  |                               | Final Form | Radionuclides                            |
| Categ             | pory: Defense TR       |                                 | aterials Production/Recove | ery Effluen | ts       | ] | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)      |
| As-Ge             | enerated Volumes       |                                 |                            |             |          | İ | Iron-Base Metal/Alloys     | 0.00                          | Am-241     | 1.04E-01                                 |
| Conta             | inerType               |                                 | Stored                     | Proj.       | Total    | İ | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 3.71E-07                                 |
| Box / N           | <u> </u>               |                                 | 3.2                        |             | 3.2      |   | Other Metal/Alloys         | 0.00                          | Pu-238     | 1.30E-02                                 |
| Drum              |                        |                                 | 327.6                      | 0.0         | 327.6    |   | Other Inorganic Materials  | 17.17                         | Pu-239     | 4.07E-01                                 |

330.8

0.0

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| SWB                | 122.8  | 0.0   | 122.8 |
| TDOP               | 622.7  | 0.0   | 622.7 |

**As-Generated Total** 

| Final Form Total | 745.6 | 0.0 | 745.6 |
|------------------|-------|-----|-------|
|------------------|-------|-----|-------|

330.8

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 17.17                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 222.67                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 334.00                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.04E-01                            |  |  |  |
| Np-237                   | 3.71E-07                            |  |  |  |
| Pu-238                   | 1.30E-02                            |  |  |  |
| Pu-239                   | 4.07E-01                            |  |  |  |
| Pu-240                   | 9.22E-02                            |  |  |  |
| Pu-241                   | 1.32E+00                            |  |  |  |
| Pu-242                   | 6.66E-06                            |  |  |  |
| Th-229                   | 3.80E-15                            |  |  |  |
| Th-230                   | 3.00E-11                            |  |  |  |
| Th-232                   | 1.14E-17                            |  |  |  |
| U-233                    | 9.73E-12                            |  |  |  |
| U-234                    | 5.05E-07                            |  |  |  |
| U-235                    | 5.22E-09                            |  |  |  |
| U-236                    | 3.55E-08                            |  |  |  |
| U-238                    | 1.31E-14                            |  |  |  |

#### **Waste Stream Description**

This waste, generated at Rocky Flats Plant, consists of liquids absorbed on a cement mixture. The liquid wastes are not compatible with aqueous treatment processes and are handled separately due to their plutonium complexing nature.

The majority of complexing chemical wastes are generated by various operations at Building 771, Plutonium Recovery operations. All waste are processed by aqueous waste treatment, building 774. The complexing chemicals include some alcohols, organic acids, and versenes (trademark for a series of chelating agents based on EDTA). All liquids are analyzed or assayed prior to release to Building 774 for treatment. Only below-discard contaminated wastes are released for processing. Above discard contaminated wastes are processed by plutonium recovery operations.

The cement mixture used for absorbing complexing liquid wastes is composed of approximately 190 lb of Portland cement and 50 lb of pipe insulation cement, such as magnesia cement. The cements are placed in a prepared 55-gallon drum; the drum is them placed on a drum roller and rolled to ensure mixing of the cements. All liquid wastes are made basic prior to adding them to the cement mixture. Approximaterly 100 liters of liquid waste is then poured on the cement mixture and allowed to solidify. Approximately 10 to 15 lb of portland cement is then added on top of the cemented liquid waste before the o-ring bag is removed from the glovebox.

Since 1972, drums have been inspected for free liquids, proper packaging, and the use of proper content code. One to two quarts of oil-dri was placed on top of the outer, sealed polyethylene drum bag after inspection. In 1982, vermiculite replaced oil-dri to fill the remaining space between the outer, sealed polyethylene drum bag and the top of the rigid liner.

Some drums may be filled with the empty polyethylene bottles used to transport the liquid waste to Building 774. A small amount of portland cement is added to each bottle before placement in a drum.

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads will begin in the next 1 - 2 years.

0.00

0.00

U-238

2.61E-13

### Waste Stream ID: IN-W163.1007

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W163 Stream Name OIL-DRI RESIDUE FROM                               | INCINER                                  | ATOR:Dir | ect Ship                |                              |                                 | Invent     | ory Date 9/30/2002                  |
|--|--|----------|-------------------------|------------------------------|---------------------------------|------------|-------------------------------------|
|  | G. G. G. G. G. G. G. G. G. G. G. G. G. G |          | Waste Matrix Code S3113 |                              | ncentrations Decayed to CY 2002 |            |                                     |
| Final Waste Form Descriptors   |  |          |                         | Waste Material Parameters    |                                 | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Unknown  Waste Volume Detail (m3) |  |          |                         | Material Parameter           | Average<br>Density<br>(kg/m3)   | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |  |          |                         | Iron-Base Metal/Alloys       | 0.00                            | Am-241     | 7.56E-01                            |
| ContainerType  | Stored                                   | Proj.    | Total                   | Aluminum-Base Metal/Alloys   | 0.00                            | Np-237     | 1.77E-06                            |
| Drum   | 4.0                                      | 0.0      | 4.0                     | Other Metal/Alloys           | 0.00                            | Pu-238     | 2.61E-01                            |
|  |  |          |                         | Other Inorganic Materials    | 205.58                          | Pu-239     | 8.20E+00                            |
| As-Generated Total   | 4.0                                      | 0.0      | 4.0                     | Cellulosics                  | 0.00                            | Pu-240     | 1.86E+00                            |
| Final Form Volumes   |  |          |                         | Rubber                       | 0.00                            | Pu-241     | 2.64E+01                            |
| ContainerType  | Stored                                   | Proj.    | Total                   | Plastics                     | 0.00                            | Pu-242     | 1.33E-04                            |
| SWB  | 1.9                                      | 0.0      | 1.9                     | Solidified, Inorganic Matrix | 208.08                          | Th-229     | 1.10E-14                            |
| TDOP   | 9.6                                      | 0.0      | 9.6                     | Cement (Solidified)          | 0.00                            | Th-230     | 6.02E-10                            |
|  |  |          |                         | Vitrified                    | 0.00                            | Th-232     | 2.30E-16                            |
| Final Form Total   | 11.5                                     | 0.0      | 11.5                    | Solidified, Organic Matrix   | 0.00                            | U-233      | 3.49E-11                            |
|  |  |          |                         | Soils                        | 0.00                            | U-234      | 1.01E-05                            |
|  |  |          |                         | Packaging Material, Steel    | 208.85                          | U-235      | 1.05E-07                            |
|  |  |          |                         | Packaging Material, Plastic  | 22.41                           | U-236      | 7.16E-07                            |

#### **Waste Stream Description**

This waste stream, generated at Rocky Flats Plant, includes Oil-Dri absorbent and waste from laundry and utility operations.

Organic content should be less than 14 lb/ft3. No sludges or free liquids should be present. The Oil-Dri should meet WIPP immobilization standards. No explosive or pyrophoric materials should be in this waste.

Packaging Material, Lead
Packaging Material, Steel Plug

The material is contained in 55-gallon drums. Inside the drums, the waste may be contained in PE bottles and/or metal paint cans and double-bagged in PE and PVC bags. Some waste may also be contained in PE residue process containers (RPCS). Drums were prepared and inspected according to pre and post-1972 procedures. Starting in 1982, vermiculite instead of Oil-Dri was used in the tops of the drums.

The waste matrix composition listed is for the incinerator waste. No information is available concerning the laundry and utility operation waste.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads will begin in the next 1 - 2 years.

8.00E-13

2.31E-07

2.40E-09

1.63E-08

5.98E-15

## Waste Stream ID: IN-W164.153

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | VASILL    | PASELI      | IAC IIAACI              | WIORT WASTE FROTIEL          |                               |            |                                     |  |
|---|-----------|-------------|-------------------------|------------------------------|-------------------------------|------------|-------------------------------------|--|
| HQ ID IN-W164 Stream Name ORGANIC AND SLUDGE IMMOBILIZATION SYSTEM:Direct Ship  |           |             |                         |                              |                               |            | Inventory Date 9/30/2002            |  |
| Local ID ID-RFO-700T Handling CH Final Waste Form Solidified Organics           |           |             | Waste Matrix Code S3114 |                              |                               |            |                                     |  |
| Final Waste Form Descriptors  |           |             |                         | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Materials Producti Waste Volume Detail (m3) | on/Recove | ery Effluer | nts                     | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |           |             |                         | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 1.73E-02                            |  |
| ContainerType   | Stored    | Proj.       | Total                   | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 4.06E-08                            |  |
| Drum  | 1.9       | 0.0         |                         | Other Metal/Alloys           | 0.00                          | Pu-238     | 5.96E-03                            |  |
|   |           |             |                         | Other Inorganic Materials    | 342.23                        | Pu-239     | 1.87E-01                            |  |
| As-Generated Total  | 1.9       | 0.0         | 1.9                     | Cellulosics                  | 0.00                          | Pu-240     | 4.23E-02                            |  |
| Final Form Volumes  |           |             |                         | Rubber                       | 0.00                          | Pu-241     | 6.04E-01                            |  |
| ContainerType   | Stored    | Proj.       | Total                   | Plastics                     | 0.00                          | Pu-242     | 3.05E-06                            |  |
| TDOP  | 4.8       | 0.0         |                         | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 2.52E-16                            |  |
| 1501  | 7.0       | 0.0         | 7.0                     | Cement (Solidified)          | 107.83                        | Th-230     | 1.38E-11                            |  |
| Final Form Total  | 4.8       | 0.0         | 4.8                     | Vitrified                    | 0.00                          | Th-232     | 5.24E-18                            |  |

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

0.00

0.00

208.43

23.67

0.00

0.00

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

Organic and sludge immobilization system (OASIS) waste consists of cutting oil and organic solvents solidified with Envirostone emulsifier, gypsum concrete, and an accelerator.

Except for the solidifying agent, the waste is similar to Item Description Code (IDC) 003 waste, and has been assigned the same Waste matrix composition.

#### **Management Comments**

2.79E-11

1.06E-17

3.80E-12

4.70E-07

4.84E-09

3.31E-08

1.21E-14

## Waste Stream ID: IN-W167.149

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| TRU V  | VASTE E   | BASELII     | NE INVEN | TORY WASTE PROFILE   |                               |            |                                     |
|--|---|-------------|----------|--|-------------------------------|------------|-------------------------------------|
| HQ ID IN-W167 Stream Name SOLIDIFIED ORGANICS                                  | :Direct Shi   | p           |          |  |                               | Invent     | ory Date 9/30/2002                  |
| Local ID ID-RFO-112T Handling CH Final Wa                                      | Local ID ID-RFO-112T Handling CH Final Waste Form Solidified Organics |             |          | Waste Matrix Code S3114 Activity Concentrations Decayed to C |                               |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |   |             |          | Waste Material Parameters                                    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Product Waste Volume Detail (m3) | ion/Recove  | ery Effluen | its      | Material Parameter   | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |   |             |          | Iron-Base Metal/Alloys                                       | 0.00                          | Am-241     | 5.32E-02                            |
| ContainerType  | Stored  | Proj.       | Total    | Aluminum-Base Metal/Alloys                                   | 0.00                          | Np-237     | 1.59E-07                            |
| Drum   | 169.1   | •           | 169.1    | Other Metal/Alloys   | 0.00                          | Pu-238     | 1.21E-02                            |
| L.   |   |             |          | Other Inorganic Materials                                    | 347.48                        | Pu-239     | 3.78E-01                            |
| As-Generated Total   | 169.1   | 0.0         | 169.1    | Cellulosics  | 0.00                          | Pu-240     | 8.59E-02                            |
| Final Form Volumes   |   |             |          | Rubber   | 0.00                          | Pu-241     | 1.22E+00                            |
| ContainerType  | Stored  | Proj.       | Total    | Plastics   | 0.00                          | Pu-242     | 6.17E-06                            |
| SWB  | 62.4  |             |          | Solidified, Inorganic Matrix                                 | 0.00                          | Th-229     | 1.40E-15                            |
| 0115   | 02.7  | 0.0         | 52.4     |  |                               |            |                                     |

320.9

383.3

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

109.49

151.01

208.85

22.42

0.00

0.00

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

TDOP

TRU solid organic waste consists of cemented or absorbed organic liquids from production or laboratory processes. The content code packaged as112 includes IDC 003.

320.9

383.3

**Final Form Total** 

0.0

0.0

#### **Management Comments**

### Waste Stream ID: IN-W174.154

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID IN-W174 Stream Name HIGH-LEVEL ACID:Direct cocal ID ID-MDO-834T Handling CH Final Wa | t Ship     | Solidified I | norganics | Waste Matrix Code S3113        | Activity Co                   |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|------------|--------------|-----------|--------------------------------|-------------------------------|---------|---|
| Final Waste Form Descriptors   | L          |              |           | Waste Material Parameters      | •                             |         | Radionuclides                           |
| Category: Defense TRU Waste Source: Materials Product  Waste Volume Detail (m3)            | ion/Recove | ery Effluen  | ts        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |            |              |           | Iron-Base Metal/Alloys         | 0.00                          | Pu-238  | 6.07E+00                                |
| ContainerType  | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239  | 4.52E-03                                |
| Drum   | 190.9      |              |           | Other Metal/Alloys             | 0.00                          | Pu-240  | 8.94E-03                                |
|  | l          |              |           | Other Inorganic Materials      | 251.15                        | Th-230  | 1.40E-08                                |
| As-Generated Total   | 190.9      | 0.0          | 190.9     | Cellulosics                    | 0.00                          | Th-232  | 1.11E-18                                |
| Final Form Volumes   |            |              |           | Rubber                         | 0.00                          | U-234   | 2.36E-04                                |
| ContainerType  | Stored     | Proj.        | Total     | Plastics                       | 0.00                          | U-235   | 5.79E-11                                |
| SWB  | 71.8       |              |           | Solidified, Inorganic Matrix   | 254.21                        | U-236   | 3.45E-09                                |
| TDOP   | 359.3      |              |           | Cement (Solidified)            | 0.00                          | <u></u> |   |
|  |            |              |           | Vitrified                      | 0.00                          |         |   |
| Final Form Total   | 431.1      | 0.0          | 431.1     | Solidified, Organic Matrix     | 0.00                          |         |   |
|  |            |              |           | Soils                          | 0.00                          |         |   |
|  |            |              |           | Packaging Material, Steel      | 208.86                        |         |   |
|  |            |              |           | Packaging Material, Plastic    | 22.39                         |         |   |
|  |            |              |           | Packaging Material, Lead       | 0.00                          |         |   |
|  |            |              |           | Packaging Material, Steel Plug | 0.00                          |         |   |

#### **Waste Stream Description**

This waste comes from Mound Laboratory. It consists of acid liquids, mainly nitric, absorbed onto a clay called Florco. The Florco is then placed in a drum bag in a drum lined with a 90-mil poly liner. Analytical assay values are available for each drum.

### **Management Comments**

#### Appendix J IN-W177.156 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name HIGH-LEVEL CAUSTIC:Direct Ship **HQ ID** IN-W177 Inventory Date 9/30/2002 ID-MDO-835T Final Waste Form Solidified Inorganics Local ID Handling CH **Waste Matrix Code** S3113 Activity Concentrations Decayed to CY 2002 **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Defense TRU Waste Source: Pollution Control or Waste Treatment Process Category: Waste Volume Detail (m3)

# As-Generated Volumes

TDOP

Waste Stream ID:

| ContainerType      |                    | Stored | Proj. | Total |
|--------------------|--------------------|--------|-------|-------|
| Drum               |                    | 355.1  | 0.0   | 355.1 |
|                    | As-Generated Total | 355.1  | 0.0   | 355.1 |
| Final Form Volumes |                    |        |       |       |
| ContainerType      |                    | Stored | Proj. | Total |
| SWB                |                    | 132.3  | 0.0   | 132.3 |

|                  | 670.6 | 0.0 | 670.6 |
|------------------|-------|-----|-------|
| _                |       |     |       |
| Final Form Total | 802.9 | 0.0 | 802.9 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 250.62                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 253.67                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
|         | ` '                                 |
| Am-241  | 1.44E-05                            |
| Np-237  | 3.36E-11                            |
| Pu-238  | 6.94E+00                            |
| Pu-239  | 2.28E-03                            |
| Pu-240  | 1.40E-05                            |
| Pu-241  | 5.01E-04                            |
| Pu-242  | 8.00E-09                            |
| Th-229  | 2.09E-19                            |
| Th-230  | 1.60E-08                            |
| Th-232  | 1.73E-21                            |
| U-233   | 6.64E-16                            |
| U-234   | 2.69E-04                            |
| U-235   | 2.92E-11                            |
| U-236   | 5.39E-12                            |
| U-238   | 1.57E-17                            |

#### **Waste Stream Description**

This waste comes from Mound Laboratory. It consists of caustic waste and neutralized waste liquids, absorbed onto a clay called Florco. The Florco is then placed in a drum bag in a drum lined with a 90-mil poly liner. Analytical assay values are available for each drum.

#### **Management Comments**

| HQ ID    | IN-W179          | Stream Name  | IGH-LE\ | VEL SLUDGE/CEMENT:Direct Ship               |                               |             | Inventor         | y Date 9/30/2002 |
|----------|------------------|--------------|---------|---|-------------------------------|-------------|------------------|------------------|
| Local ID | ID-MDO-836T      | Handling     | CH      | Final Waste Form Solidified Inorganics      | Waste Matrix Code S3121       | Activity Co | ncentrations Dec | ayed to CY 2002  |
|          | ste Form Descrip |              |         |   | <br>Waste Material Parameters |             | Final Form R     | adionuclides     |
| Cateo    | ory: Defense TF  | RU Waste Sou | rce: Fa | acility/Equipment Operation and Maintenance | 1                             | Average     |                  | Typical          |

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum                 | 886.1  | 0.0   | 886.1 |
| As-Generated Total   | 886.1  | 0.0   | 886.1 |

Waste

| Final Form Volumes |                  |        |       |        |  |
|--------------------|------------------|--------|-------|--------|--|
| ContainerType      |                  | Stored | Proj. | Total  |  |
| SWB                |                  | 328.9  | 0.0   | 328.9  |  |
| TDOP               |                  | 1666.9 | 0.0   | 1666.9 |  |
|                    | Final Form Total | 1995.8 | 0.0   | 1995.8 |  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 251.63                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 254.70                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes            |  |  |  |  |
|-------------------------------------|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| 3.88E-05                            |  |  |  |  |
| 9.08E-11                            |  |  |  |  |
| 2.78E+00                            |  |  |  |  |
| 5.33E-05                            |  |  |  |  |
| 2.77E-05                            |  |  |  |  |
| 1.35E-03                            |  |  |  |  |
| 2.42E-08                            |  |  |  |  |
| 5.64E-19                            |  |  |  |  |
| 6.42E-09                            |  |  |  |  |
| 3.43E-21                            |  |  |  |  |
| 1.79E-15                            |  |  |  |  |
| 1.08E-04                            |  |  |  |  |
| 6.83E-13                            |  |  |  |  |
| 1.07E-11                            |  |  |  |  |
| 4.75E-17                            |  |  |  |  |
|                                     |  |  |  |  |

#### **Waste Stream Description**

This waste is from Mound Labs. The waste consists of shower water, decontamination water, cooling water, and some acids and caustics which have been solidified in portland cement. The cement is poured into a drum lined with a 90-mil poly liner. Analytical assay values are available on a batch basis. Volume for this waste stream has increased significantly from the TWBIR Revision 2 volumes due to the additional Alpha Mixed Low-level waste (AMLLW).

#### **Management Comments**

4.14E-18

6.31E-13

1.83E-07

1.88E-09

1.29E-08

4.73E-15

### Waste Stream ID: IN-W181.162

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                 |                 |                  | TRU W                   | VASTE       | BASELII      | NE INVEN  | ITORY WASTE PROFILE          |                               |                 |                                     |
|-----------------|-----------------|------------------|-------------------------|-------------|--------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
|                 |                 | eam Name LAUNDRY |                         | •           |              |           |                              |                               |                 | ory Date 9/30/2002                  |
| Local ID ID-RF  | O-978T          | Handling CH      | Final Wa                | ste Form    | Solidified I | norganics | Waste Matrix Code S3120      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste For | m Descriptors   |                  |                         |             |              |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category:       | Defense TRU Was |                  | cility/Equipmen<br>aste | t Operation | n and Mair   | ntenance  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|                 |                 |                  |                         |             |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 1.37E-02                            |
| As-Generated    |                 |                  |                         |             |              | ,         | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 3.20E-08                            |
| ContainerTyp    | e               |                  |                         | Stored      | Proj.        | Total     | Other Metal/Alloys           | 2.96                          | Pu-238          | 4.71E-03                            |
| Box / Misc.     |                 |                  |                         | 34.9        | 0.0          | 34.9      | Other Inorganic Materials    | 30.25                         | Pu-239          | 1.47E-01                            |
|                 |                 | As-Ge            | nerated Total           | 34.9        | 0.0          | 34.9      | Cellulosics                  | 30.25                         | Pu-240          | 3.34E-02                            |
|                 |                 |                  |                         |             |              |           | Rubber                       | 0.00                          | Pu-241          | 4.76E-01                            |
| Final Form Vo   |                 |                  |                         |             |              |           | Plastics                     | 8.18                          | Pu-242          | 2.41E-06                            |
| ContainerTyp    | oe .            |                  |                         | Stored      | Proj.        | Total     | Solidified, Inorganic Matrix | 402.68                        | Th-229          | 1.99E-16                            |
| SWB             |                 |                  |                         | 13.2        | 0.0          | 13.2      | Cement (Solidified)          | 268.45                        | Th-230          | 1.09E-11                            |

67.1

80.3

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

208.85

29.47

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

TDOP

This waste is from Rocky Flats. The waste consists of sludge from laundry operations that have been cemented in portland. The cement is described as a poor grade. Volume for this waste stream has increased significantly from the TWBIR Revision 2 volumes due to the additional Alpha Mixed Low-level waste (AMLLW).

67.

80.3

**Final Form Total** 

0.0

0.0

#### **Management Comments**

## Waste Stream ID: IN-W188.160

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                   |                    | THO WAOTE BACKETTE INVI                            |   | IWAGILINGIILL              |                    |                 |                       |
|----------|-------------------|--------------------|--|---|----------------------------|--------------------|-----------------|-----------------------|
|          |                   | _                  |  |   |                            |                    | _               |                       |
| HQ ID    | IN-W188           | Stream Name BLDG   | 776 PROCESS SLUDGE:Direct Ship                     |   |                            |                    | Invento         | ory Date 9/30/2002    |
| Local ID | ID-RFO-976T       | <b>Handling</b> CH | Final Waste Form Solidified Inorganics             | 5 | Waste Matrix Code S3120    | Activity Co        | ncentrations De | cayed to CY 2002      |
| Final Wa | ste Form Descrip  | tors               | _  |   | Waste Material Parameters  |                    | Final Form      | Radionuclides         |
| Categ    | ory: Defense TF   | RU Waste Source:   | Facility/Equipment Operation and Maintenance Waste |   |                            | Average<br>Density |                 | Typical Concentration |
| Waste Vo | olume Detail (m3) |                    |  |   | Material Parameter         | (kg/m3)            | Isotope         | (Ci/m3)               |
|          |                   |                    |  | 7 | Iron-Base Metal/Alloys     | 0.00               | Am-241          | 4.95E-02              |
| As-Ge    | nerated Volumes   |                    |  |   | Aluminum Rasa Motal/Alloys | 0.00               | No 227          | 1 165 07              |

| ContainerType      | Stored | Proj. | Total |
|--------------------|--------|-------|-------|
| Box / Misc.        | 63.4   | 0.0   | 63.4  |
| Drum / 55 gallon   | 1.5    | 0.0   | 1.5   |
| As-Generated Total | 64.9   | 0.0   | 64.9  |
| - · - · · ·        |        |       |       |

| Final Form Volumes |           |       |       |
|--------------------|-----------|-------|-------|
| ContainerType      | Stored    | Proj. | Total |
| SWB                | 24.6      | 0.0   | 24.6  |
| TDOP               | 124.5     | 0.0   | 124.5 |
|                    | <br>440.4 | 0.0   | 440.4 |

| <b>Final Form Total</b> | 149.1 | 0.0 | 149.1 |
|-------------------------|-------|-----|-------|

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.46                          |
| Other Inorganic Materials      | 15.79                         |
| Cellulosics                    | 6.62                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.10                          |
| Solidified, Inorganic Matrix   | 289.87                        |
| Cement (Solidified)            | 193.25                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Finai Form |                                     |
|------------|-------------------------------------|
| Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| Am-241     | 4.95E-02                            |
| Np-237     | 1.16E-07                            |
| Pu-238     | 1.71E-02                            |
| Pu-239     | 5.35E-01                            |
| Pu-240     | 1.21E-01                            |
| Pu-241     | 1.73E+00                            |
| Pu-242     | 8.75E-06                            |
| Th-229     | 7.19E-16                            |
| Th-230     | 3.94E-11                            |
| Th-232     | 1.50E-17                            |
| U-233      | 2.29E-12                            |
| U-234      | 6.62E-07                            |
| U-235      | 6.86E-09                            |
| U-236      | 4.66E-08                            |
| U-238      | 1.72E-14                            |

#### **Waste Stream Description**

This waste is from Rocky Flats and consists of sludge from floor drains in a Pu process facility that have been cemented in portland. The cement is described as a poor grade. Also may be laundry sludges, material contents given are for an organic laundry sludge.

### **Management Comments**

Appendix J DOE/TRU-2006-3344 Waste Stream ID: IN-W216.98

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W216 Stream Name FIRST STAGE SLUDGE:Dire Local ID ID-RFO-001T Handling CH Final Waste |           | olidified li | norganics | Waste Matrix Code S3121    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-----------|--------------|-----------|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |           |              |           | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Pollution Control or W Waste Volume Detail (m3)            | Vaste Tre | eatment F    | Process   | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |              |           | Iron-Base Metal/Alloys     | 0.00                          | Am-241     | 1.13E+01                                |
|  | tored     | Proj.        | Total     | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 4.81E-05                                |
| Box / Misc.  | 22.2      | 0.0          | 22.2      | Other Metal/Alloys         | 2.14                          | Pu-238     | 1.62E-02                                |
|  | 2567.6    | 0.0          | 2567.6    | Other Inorganic Materials  | 2.22                          | Pu-239     | 5.10E-01                                |
|  |           | 0.0          |           | Cellulosics                | 0.00                          | Pu-240     | 1.16E-01                                |
| As-Generated Total 2   | 2589.7    | 0.0          | 2589.7    | Rubber                     | 0.00                          | Pu-241     | 1.65E+00                                |
|  |           |              | 1         | Plastics                   | 6.00                          | Pu-242     | 8.34F-06                                |

| Final Form Volumes |         |       |         |
|--------------------|---------|-------|---------|
| ContainerType      | Stored  | Proj. | Total   |
| SWB                | 2099.8  | 0.0   | 2099.8  |
| TDOP               | 10643.4 | 0.0   | 10643.4 |
|                    |         |       |         |

Final Form Total | 12743.2 0.0 12743.2

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.14                          |
| Other Inorganic Materials      | 2.22                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 6.00                          |
| Solidified, Inorganic Matrix   | 295.29                        |
| Cement (Solidified)            | 196.86                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# Th-229 5.51E-13 Th-230 3.75E-11 Th-232 1.44E-17

1.35E-09

6.31E-07

6.54E-09

4.47E-08

1.64E-14

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

Waste consists of a wet sludge produced from treating aqueous process wastes, such as ion exchange column effluent, distillates, and caustic scrub solutions generated by Plutonium Recovery Operations (Building 771). Portland cement is added to the waste package for absorption of free liquids. Waste drums may periodically contain surgeons' gloves, gloves, etc.

Since the fall of 1979, first-stage sluge (IDC 001) and Second stage sludge (IDC 002) have been combined into Content Code 1 - Combined sludge.

Sludge is produced by treating aqueous wastes by the carrier precipitation process. Aqueous wastes are made basic, if necessary, with sodium hydroxide. Radioactive elements such as plutonium and americium are chemically precipitated from the liquid waste. Treatment chemicals include ferric sulfate, calcium chloride, magnesium sulfate, and flocculating agents. The treatment process produces a precipitate of the hydrated oxides of iron, magnesium, aluminum, silicon, etc., which also carries the hydrated oxides of plutonium and americium. The precipitate or slurry is filtered to produce a sludge containing 50 to 70 weight percent water.

Liquid wastes were analyzed for fissile content prior to release from Building 771 and 774, and were retained at Building 771 for further treatment if contaminated with above-discard amounts of plutonium.

#### **Management Comments**

| HQ ID    | IN-W218          | Stream Nan | ne BLDG | 374 DRY SLUDGE:Direct Ship              |                               |              | Inventory         | Date 9/30/2002 |
|----------|------------------|------------|---------|---|-------------------------------|--------------|-------------------|----------------|
| Local ID | ID-RFO-007T      | Handliı    | ng CH   | Final Waste Form Solidified Inorganics  | Waste Matrix Code S3121       | Activity Con | centrations Decay | red to CY 2002 |
|          | ste Form Descrip |            |         |   | <br>Waste Material Parameters |              | Final Form Rac    | dionuclides    |
| Categ    | ory: Defense TF  | RU Waste   | Source: | Materials Production/Recovery Effluents |                               | Average      |                   | Typical        |

#### Waste Volume Detail (m3)

| As-Generated Volumes                    |                     |       |                    |
|---|---------------------|-------|--------------------|
| ContainerType                           | Stored              | Proj. | Total              |
| Drum                                    | 923.5               | 0.0   | 923.5              |
| As-Generated To                         | 923.5               | 0.0   | 923.5              |
| Final Form Volumes                      |                     |       |                    |
| l e e e e e e e e e e e e e e e e e e e |                     |       |                    |
| ContainerType                           | Stored              | Proj. | Total              |
| ContainerType<br>SWB                    | <b>Stored</b> 344.0 | •     | <b>Total</b> 344.0 |
| · · · · · · · · · · · · · · · · · · ·   |                     | 0.0   |                    |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.14                          |
| Other Inorganic Materials      | 2.22                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 6.00                          |
| Solidified, Inorganic Matrix   | 295.47                        |
| Cement (Solidified)            | 196.98                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.40                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides            |  |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |  |
| 3.43E-01                            |  |  |  |  |  |  |  |
| 1.45E-06                            |  |  |  |  |  |  |  |
| 2.21E-03                            |  |  |  |  |  |  |  |
| 6.92E-02                            |  |  |  |  |  |  |  |
| 1.57E-02                            |  |  |  |  |  |  |  |
| 2.24E-01                            |  |  |  |  |  |  |  |
| 1.13E-06                            |  |  |  |  |  |  |  |
| 1.66E-14                            |  |  |  |  |  |  |  |
| 5.11E-12                            |  |  |  |  |  |  |  |
| 1.94E-18                            |  |  |  |  |  |  |  |
| 4.07E-11                            |  |  |  |  |  |  |  |
| 8.59E-08                            |  |  |  |  |  |  |  |
| 8.87E-10                            |  |  |  |  |  |  |  |
| 6.05E-09                            |  |  |  |  |  |  |  |
| 2.22E-15                            |  |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |  |

#### **Waste Stream Description**

Building 374 solidified sludge consists of immobilized low-level mixed waste materials from decontamination-precipitation and neutralization processes in the Building 374 Liquid Waste Treatment Facility. The wastewater treatment operation includes neutralization, radioactive decontamination (precipitation), filtration, evaporation, spray drying, salt immobilization, and filtrate sludge immobilization. The sludge from the rotary drum vacuum filter has a dry appearance but is still very moist. The dried sludge was transferred from the dryer directly into a 55-gallon drum. The resulting waste consisted of dispersible fines and was assigned IDC 007.

#### **Management Comments**

| HQ ID    | IN-W219   | Stream Name | SOLID | FIED GRINDING SLUDGE, ETC.:Uncertifiable |  |                         |                    | Inventor        | y Date 4/30/1995      |
|----------|---|-------------|-------|--|--|-------------------------|--------------------|-----------------|-----------------------|
| Local ID | ID-BTO-030T   | Handling    | CH    | Final Waste Form Inorganic Non-Metal     |  | Waste Matrix Code S3120 | Activity Con       | centrations Dec | ayed to CY 2002       |
| Final Wa | Final Waste Form Descriptors  Waste Material Parameters  Final Form Radionuclides |             |       |  |  |                         |                    |                 | adionuclides          |
| Categ    | gory: Defense TF  | RU Waste So | urce: | Other/Multiple Sources                   |  |                         | Average            |                 | Typical               |
| Wasto V  | olume Detail (m3)   |             |       |  |  | Material Parameter      | Density<br>(kg/m3) | Isotope         | Concentration (Ci/m3) |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum                 |                    | 7.6    | 0.0   | 7.6   |
|                      | As-Generated Total | 7.6    | 0.0   | 7.6   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 4.0    | 0.0   | 4.0   |
|                      | Final Form Total   | 4.0    | 0.0   | 4.0   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 2500.00                       |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 465.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.14E-01                            |
| Np-237  | 2.67E-07                            |
| Pu-238  | 3.92E-02                            |
| Pu-239  | 1.23E+00                            |
| Pu-240  | 2.79E-01                            |
| Pu-241  | 3.97E+00                            |
| Pu-242  | 2.01E-05                            |
| Th-229  | 1.66E-15                            |
| Th-230  | 9.05E-11                            |
| Th-232  | 3.45E-17                            |
| U-233   | 5.26E-12                            |
| U-234   | 1.52E-06                            |
| U-235   | 1.58E-08                            |
| U-236   | 1.08E-07                            |
| U-238   | 3.94E-14                            |

#### **Waste Stream Description**

This waste steam, generated at Bettis Atomic Power Laboratory, consists of solidified grinding sludge and associated filters, rags, etc. The sludge can contain abraded grinding wheel material, which includes diamond dust, aluminum oxide, carborundum, and rubber. The waste is in either powder or cakes and contains not more than 10% of other waste items.

There are high levels of fines. In addition the drums may contain free liquids. The estimated organic content is less than 1 lb/ft3. No particle size data are provided, but it is assumed that WIPP-WAC limits for fines would be exceeded. No free liquids should be present. No explosive, pyrophoric, or corrosive material should be in the waste.

Both 17c and 6m 55-gallon drums were used for packaging the waste. Fissile content was determined by calculating the weight difference by chemical analysis or by an assay gauge.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stored

1.9

1.9

1.9

Proj.

0.0

0.0

0.0

| на ір     | IN-W219           | Stream Name SC | I IDIEIE | ED GRINDING SLUDGE, ETC.:RH Direct Shi | n            |                           |          |         | lavontos       | v Date N/A            |
|-----------|-------------------|----------------|----------|--|--------------|---------------------------|----------|---------|----------------|-----------------------|
| Local ID  | ID-BTO-030T       |                | CH I     | Final Waste Form Solidified Inorganics | •            | Waste Matrix Code S3120   | Activity | , Canaa | Inventor       | ayed to CY 2002       |
| Local ID  | 10-010-0001       | Handing        | 511      | Final Waste Form Condined morganics    | <u></u>      | Waste Matrix Code 03120   | Activity | Conce   | illiations Dec | ayed to CT 2002       |
| Final Was | ste Form Descript | tors           |          |  |              | Waste Material Parameters |          |         | Final Form R   | adionuclides          |
| Categ     | ory: Defense TR   | RU Waste Sour  | ce: Otl  | her/Multiple Sources                   |              |                           | Average  |         |                | Typical               |
|           |                   |                |          |  | <del>_</del> | Material Parameter        | Density  |         | Isotope        | Concentration (Ci/m3) |
| Waste Vo  | olume Detail (m3) |                |          |  |              | Material Faranteter       | (kg/m3)  |         | isotope        | (Ci/ili3)             |
|           |                   |                |          |  |              |                           | 0.00     |         | A 044          | 0 705 00              |

Total

1.9

1.9

1.9

| Final Form Volumes                   |        |       |       |
|--------------------------------------|--------|-------|-------|
| ContainerType                        | Stored | Proj. | Total |
| SWB used to overpack 55 gallon drums | 1.9    | 0.0   | 1.9   |

As-Generated Total

**Final Form Total** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.11                          |
| Other Inorganic Materials      | 11.97                         |
| Cellulosics                    | 5.02                          |
| Rubber                         | 0.00                          |
| Plastics                       | 3.11                          |
| Solidified, Inorganic Matrix   | 219.88                        |
| Cement (Solidified)            | 146.59                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 211.00                        |
| Packaging Material, Plastic    | 16.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.76E-02                            |
| Np-237  | 8.79E-08                            |
| Pu-238  | 1.29E-02                            |
| Pu-239  | 4.06E-01                            |
| Pu-240  | 9.21E-02                            |
| Pu-241  | 1.31E+00                            |
| Pu-242  | 6.63E-06                            |
| Th-229  | 5.46E-16                            |
| Th-230  | 2.98E-11                            |
| Th-232  | 1.14E-17                            |
| U-233   | 1.74E-12                            |
| U-234   | 5.01E-07                            |
| U-235   | 5.20E-09                            |
| U-236   | 3.55E-08                            |
| U-238   | 1.30E-14                            |

#### Waste Stream Description

As-Generated Volumes
ContainerType

Drum

Waste Stream ID:

IN-W219.914

This waste steam, generated at Bettis Atomic Power Laboratory, consists of solidified grinding sludge and associated filters, rags, etc. The sludge can contain abraded grinding wheel material, which includes diamond dust, aluminum oxide, carborundum, and rubber. The waste is in either powder or cakes and contains not more than 10% of other waste items.

There are high levels of fines. In addition the drums may contain free liquids. The estimated organic content is less than 1 lb/ft3. No particle size data are provided, but it is assumed that WIPP-WAC limits for fines would be exceeded. No free liquids should be present. No explosive, pyrophoric, or corrosive material should be in the waste.

Both 17c and 6m 55-gallon drums were used for packaging the waste. Fissile content was determined by calculating the weight difference by chemical analysis or by an assay gauge.

#### **Management Comments**

| HQ ID IN-W220 Stream Name RESEARCH GENERATED WASTE NONCOMPACTIBLE :Direct Ship |                  |          |    |                                       |   |                           |              |                  |                 |
|--|------------------|----------|----|---------------------------------------|---|---------------------------|--------------|------------------|-----------------|
| Local ID   | ID-OFS-111T      | Handling | СН | Final Waste Form Solidified Inorganic | 3 | Waste Matrix Code S3121   | Activity Cor | centrations Deca | ayed to CY 2002 |
| Final Waste Form Descriptors   |                  |          |    |                                       |   |                           |              |                  |                 |
| Final Wa   | ste Form Descrip | tors     |    |                                       |   | Waste Material Parameters |              | Final Form R     | adionuclides    |

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Box / Misc.          |                    | 6.3    | 0.0   | 6.3   |
| Drum                 |                    | 832.4  | 0.0   | 832.4 |
|                      | As-Generated Total | 838.8  | 0.0   | 838.8 |
| Final Form Volumes   |                    |        |       |       |

| Stored | Proj. | Total     |
|--------|-------|-----------|
| 311.9  | 0.0   | 311.9     |
| 1580.7 | 0.0   | 1580.7    |
|        | 311.9 | 311.9 0.0 |

Final Form Total 1892.5 0.0 1892.5

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.14                          |
| Other Inorganic Materials      | 2.22                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 6.00                          |
| Solidified, Inorganic Matrix   | 432.15                        |
| Cement (Solidified)            | 59.94                         |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |
|--------------------------|-------------------------------------|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |
| Am-241                   | 2.70E+00                            |  |
| Np-237                   | 1.14E-05                            |  |
| Pu-238                   | 8.60E-03                            |  |
| Pu-239                   | 2.90E-01                            |  |
| Pu-240                   | 6.37E-02                            |  |
| Pu-241                   | 8.72E-01                            |  |
| Pu-242                   | 4.41E-06                            |  |
| Th-229                   | 2.29E-07                            |  |
| Th-230                   | 1.99E-11                            |  |
| Th-232                   | 7.89E-18                            |  |
| U-233                    | 1.88E-04                            |  |
| U-234                    | 3.34E-07                            |  |
| U-235                    | 2.09E-08                            |  |
| U-236                    | 2.46E-08                            |  |
| U-238                    | 8.65E-15                            |  |
|                          | -                                   |  |

#### **Waste Stream Description**

This waste includes waste generated at ANL-East and solid wet sludge from the Rocky Flats Plant. The ANL-E waste is derived from research activities performed in a laboratory environment. The waste includes concrete and laboratory apparatus. The waste is packaged in 55-gallon drums or in SWBs.

The solid wet sludge is cemented or dewatered sludge precipitated from aqueous waste treatment processes. Soils that are not contaminated with organic chemicals are also included.

Rocky flats waste included in 111 is IDC 007, Building 374 solidified sludge. IDC 007 consists of immobilized low-level mixed waste materials from decontamination-precipitation and neutralization processes in the Building 374 Liquid Waste Treatment Facility. The wastewater treatment operation includes neutralization, radioactive decontamination (precipitation), filtration, evaporation, spray drying, salt immobilization, and filtrate sludge immobilization. The sludge from the rotary drum vacuum filter has a dry appearance but is still very moist. The dried sludge was transferred from the dryer directly into a 55-gallon drum. The sludge was dried, or had portland cement and diatomite added to absorb liquids.

Note: Waste matrix composition listed is for Rocky Flats Waste.

#### **Management Comments**

# Waste Stream ID: IN-W221.927 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID IN-W221 Stream Name SOLID LAB WASTE:Direct Ship Inventory Date 9/30/2002
Local ID ID-RFO-113T Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3113 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| Drum                 |                   | 17.1   | 0.0   | 17.1  |
| A                    | s-Generated Total | 17.1   | 0.0   | 17.1  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| SWB                | 5.7    | 0.0   | 5.7   |
| TDOP               | 33.5   | 0.0   | 33.5  |
|                    |        |       |       |

**Final Form Total** 39.2 0.0 39.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 16.90                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 328.70                        |
| Cement (Solidified)            | 131.48                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.80                        |
| Packaging Material, Plastic    | 22.56                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

|         | Tuminal       |
|---------|---------------|
|         | Typical       |
| _       | Concentration |
| Isotope | (Ci/m3)       |
| Am-241  | 7.03E-02      |
| Np-237  | 1.64E-07      |
| Pu-238  | 2.41E-02      |
| Pu-239  | 7.55E-01      |
| Pu-240  | 1.71E-01      |
| Pu-241  | 2.45E+00      |
| Pu-242  | 1.23E-05      |
| Th-229  | 1.02E-15      |
| Th-230  | 5.57E-11      |
| Th-232  | 2.11E-17      |
| U-233   | 3.24E-12      |
| U-234   | 9.36E-07      |
| U-235   | 4.76E-06      |
| U-236   | 6.59E-08      |
| U-238   | 2.41E-14      |

#### **Waste Stream Description**

Solid lab waste consists of cemented or absorbed neutralized aqueous laboratory waste and includes some waste from IDCs 004 and 292.

Waste matrix composition listed is for IDC 004 waste, which accounts for most of the waste in this content code.

#### **Management Comments**

| HQ ID    | IN-W222     | Stream Name | CEMEN | FED SLUDGE:Direct Ship                 |                         |               | Inventory Date 9/30/2002       |
|----------|-------------|-------------|-------|--|-------------------------|---------------|--------------------------------|
| Local ID | ID-RFO-292T | Handling    | СН    | Final Waste Form Solidified Inorganics | Waste Matrix Code S3123 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Pollution Control or Waste Treatment Process

#### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| Drum                 |                   | 115.2  | 0.0   | 115.2 |
| As                   | s-Generated Total | 115.2  | 0.0   | 115.2 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| SWB                | 43.5   | 0.0   | 43.5  |
| TDOP               | 215.6  | 0.0   | 215.6 |

**Final Form Total** 259.0 0.0 259.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.09                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 6.96                          |
| Cellulosics                    | 0.26                          |
| Rubber                         | 0.00                          |
| Plastics                       | 26.56                         |
| Solidified, Inorganic Matrix   | 110.70                        |
| Cement (Solidified)            | 73.80                         |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.86                        |
| Packaging Material, Plastic    | 22.38                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 3.65E-01                            |  |  |
| Np-237                   | 8.65E-07                            |  |  |
| Pu-238                   | 1.24E-01                            |  |  |
| Pu-239                   | 3.88E+00                            |  |  |
| Pu-240                   | 8.78E-01                            |  |  |
| Pu-241                   | 1.25E+01                            |  |  |
| Pu-242                   | 6.35E-05                            |  |  |
| Th-229                   | 5.50E-15                            |  |  |
| Th-230                   | 2.86E-10                            |  |  |
| Th-232                   | 1.09E-16                            |  |  |
| U-233                    | 1.73E-11                            |  |  |
| U-234                    | 4.80E-06                            |  |  |
| U-235                    | 4.97E-08                            |  |  |
| U-236                    | 3.39E-07                            |  |  |
| U-238                    | 1.25E-13                            |  |  |
|                          |                                     |  |  |

#### **Waste Stream Description**

This waste stream, generated at Rocky Flats Plant, consists of sludge from the incinerator off-gas system, recovery building filter plenums, pumps, etc. Portland cement is added to absorb free liquids. The sludge may contain a limited number of surgical gloves. Content Code 292 replaced Code 290 in 1974.

Before 1977, sludge was sealed in PVC bags, double-contained in plastic and placed in 1-gallon metal paint cans. Portland cement was added to the bottom and top of the can. After 1977, sludge was placed in 1-gallon PE bottles with layers of portland cement. Each can (or bottle) was assayed and placed in groups of about 25 into prepared 55-gallon drums. Drum preparation was in accordance with pre and post 1972 procedures. Starting in 1982, vermiculite replaced Oil-Dri as the material between the top of the waste material and the drum liner lid.

#### **Management Comments**

| Final Wa | ste Form Descrip | tors        |        |  | Waste Material Parameters |                          | Final Form Radionuclides       |
|----------|------------------|-------------|--------|--|---------------------------|--------------------------|--------------------------------|
| Local ID | ID-RFO-002T      | Handling    | СН     | Final Waste Form Solidified Inorganics | Waste Matrix Code S3121   | Activity Cond            | centrations Decayed to CY 2002 |
| HQ ID    | IN-W228          | Stream Name | SECONE | O STAGE SLUDGE:Direct Ship             |                           | Inventory Date 9/30/2002 |                                |

Defense TRU Waste Pollution Control or Waste Treatment Process Category: Source:

### Waste Volume Detail (m3) As Congreted Volumes

| As-Generated volumes |                    |        |       |        |
|----------------------|--------------------|--------|-------|--------|
| ContainerType        |                    | Stored | Proj. | Total  |
| Drum                 |                    | 1639.0 | 0.0   | 1639.0 |
|                      | As-Generated Total | 1639.0 | 0.0   | 1639.0 |
| Final Form Volumes   |                    |        |       |        |

| Final Form volumes |        |       |        |
|--------------------|--------|-------|--------|
| ContainerType      | Stored | Proj. | Total  |
| SWB                | 1328.7 | 0.0   | 1328.7 |
| TDOP               | 6734.7 | 0.0   | 6734.7 |
|                    |        |       |        |

Final Form Total 8063.4 0.0 8063.4

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 14.49                         |
| Cellulosics                    | 0.10                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.99                          |
| Solidified, Inorganic Matrix   | 127.17                        |
| Cement (Solidified)            | 84.78                         |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.64E-01                            |
| Np-237  | 6.93E-07                            |
| Pu-238  | 1.29E-03                            |
| Pu-239  | 4.06E-02                            |
| Pu-240  | 9.18E-03                            |
| Pu-241  | 1.31E-01                            |
| Pu-242  | 6.62E-07                            |
| Th-229  | 7.90E-15                            |
| Th-230  | 2.98E-12                            |
| Th-232  | 1.14E-18                            |
| U-233   | 1.95E-11                            |
| U-234   | 5.01E-08                            |
| U-235   | 5.20E-10                            |
| U-236   | 3.54E-09                            |
| U-238   | 1.30E-15                            |

#### **Waste Stream Description**

Waste consists of a wet sludge produced from treatment of all other plant radioactive and/or chemical contaminated wastes and further treatment of the first-stage effluent. Portland cement was added to the waste package for absorption of free liquids.

Second-stage sludge drums packaged prior to 1973 may contain other waste such as electric motors, bottles of chemical (usually liquid) wastes, mercury and lithium batteries, and small amounts of contaminated mercury in pint bottles. Radioactive sources were also periodically included in second-stage drums through 1979.

Since the fall of 1979, Second stage sludge (IDC 002) have been combined into Content Code 1 - Combined sludge. Content code 2 is no longer used.

Sludge is produced by treating aqueous wastes by the carrier precipitation process. Aqueous wastes are made basic, if necessary, with sodium hydroxide. Radioactive elements such as plutonium and americium are chemically precipitated from the liquid waste. Treatment chemicals include ferric sulfate, calcium chloride, magnesium sulfate, and flocculating agents. The treatment process produces a precipitate of the hydrated oxides of iron, magnesium, aluminum, silicon, etc., which also carries the hydrated oxides of plutonium and americium. The precipitate or slurry is filtered to produce a sludge containing 50 to 70 weight percent water.

Liquid wastes were analyzed for fissile content prior to release from Building 771 and 774, and were retained at Building 771 for further treatment if contaminated with above-discard amounts of plutonium.

### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: IN-W240.931

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W240 Stream Name GLASS WASTE:Direct Sh                                 | ip       |            |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|----------|------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID ID-RFO-118T Handling CH Final Was                                      | ste Form | norganic N | Non-Metal | Waste Matrix Code S3117      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou Waste Volume Detail (m3) | rces     |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |            |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 2.48E-01                            |
| ContainerType   | Stored   | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 8.70E-07                            |
| Box / Misc.   | 164.8    | 0.0        | 164.8     | Other Metal/Alloys           | 0.00                          | Pu-238     | 3.36E-02                            |
| Drum  | 10.6     | 0.0        |           | Other Inorganic Materials    | 1.05                          | Pu-239     | 1.06E+00                            |
|   |          |            |           | Cellulosics                  | 191.07                        | Pu-240     | 2.39E-01                            |
| As-Generated Total  | 175.4    | 0.0        | 175.4     | Rubber                       | 0.00                          | Pu-241     | 3.39E+00                            |
| Final Form Volumes  |          |            |           | Plastics                     | 0.70                          | Pu-242     | 1.72E-05                            |
| ContainerType   | Stored   | Proj.      | Total     | Solidified, Inorganic Matrix | 20.70                         | Th-229     | 8.78E-15                            |
| SWB   | 66.2     | 0.0        | 66.2      | Cement (Solidified)          | 0.00                          | Th-230     | 7.75E-11                            |
| TDOP  | 330.5    | 0.0        | 330.5     | Vitrified                    | 0.00                          | Th-232     | 2.96E-17                            |
|   | I .      |            |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 2.26E-11                            |
| Final Form Total  | 396.7    | 0.0        | 396.7     | Soils                        | 0.00                          | U-234      | 1.30E-06                            |
|   |          |            |           | Packaging Material, Steel    | 208.86                        | U-235      | 1.80E-07                            |
|   |          |            |           | Packaging Material, Plastic  | 22.39                         | U-236      | 9.20E-08                            |
|   |          |            |           | Packaging Material, Lead     | 0.00                          | U-238      | 3.37E-14                            |

#### **Waste Stream Description**

TRU glass waste consists of discarded labware, windows, containers or raschig rings from various processes. The IDCs packaged and included in 118 are 440, 441, and 442. Waste matrix composition listed is for IDC 440. For IDCs 441 and 442, the "Other Glass" matrix would be mostly raschig rings.

### **Management Comments**

Waste Stream ID: IN-W243.808 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | TAOTE      | AOLLII     | TE HAVEIAL | OKT WASTET KOTTEE            |                               |            |   |
|---|------------|------------|------------|------------------------------|-------------------------------|------------|---|
| HQ ID IN-W243 Stream Name GLASS:Direct Ship Local ID ID-RFO-440T Handling CH Final Wa | aste Form  | norganic N | Non-Metal  | Waste Matrix Code S3117      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |            |            |            | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Analytical Labora Waste Volume Detail (m3)        | tory Waste |            |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |            |            | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 1.54E-01                                |
| ContainerType   | Stored     | Proj.      | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 4.86E-07                                |
| Box / Misc.   | 41.2       |            |            | Other Metal/Alloys           | 0.73                          | Pu-238     | 3.01E-02                                |
| Drum  | 302.0      |            |            | Other Inorganic Materials    | 132.63                        | Pu-239     | 9.49E-01                                |
|   |            |            |            | Cellulosics                  | 0.00                          | Pu-240     | 2.15E-01                                |
| As-Generated Total  | 343.2      | 0.0        | 343.2      | Rubber                       | 0.48                          | Pu-241     | 3.06E+00                                |
| Final Form Volumes  |            |            |            | Plastics                     | 14.37                         | Pu-242     | 1.55E-05                                |
| ContainerType   | Stored     | Proi.      | Total      | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 3.34E-10                                |

126.6

646.7

773.3

126.6

646.

773.3

**Final Form Total** 

0.0

0.0

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

Vitrified

Soils

0.00

0.00

0.00

0.00

208.85

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

6.96E-11

2.66E-17

2.74E-07

1.17E-06

3.10E-08

8.28E-08

3.04E-14

#### **Waste Stream Description**

SWB

TDOP

This waste stream, generated at the Rocky Flats Plant, consists of glass sample vials, bottles, lead-taped sample vials, ion exchange columns, dissolver pots, laboratory glassware such as pyrex flasks and beakers, glovebox windows (glass, plexiglass, leaded glass), and crushed and ground glass. The waste includes limited amounts of other noncombustibles such as metals, and limited amounts of combustible wastes. No sludges should be present although some glass vials may contain limited amounts of free liquids. No explosive, pyrophoric, or corrosive materials should be in the waste.

Drums may contain respirable crushed glass fines or free liquids .

The glass may be packaged with some variation depending on if it is whole, broken to pieces, or crushed or ground. Whole or broken glass may be packaged in 1-gallon PE bottles, in 13-inch high by 15.5-inch diameter Fibre-Paks (either loose or inside plastic bags inside the Fibre-Pak), or double -packed in plastic bags, with the outside of the outer bag taped for protection against sharp edges. Glassware such as sample vials may be taped together before packaging. Nonline generated glassware, light bulbs, and fluorescent tubes are usually crushed or ground and placed directly into a prepared 55-gallon drum. Drums were packed according to the usual pre-1972 and post-1972 procedures. Specific information on the box preparation was not available.

Each drum was assayed. Since 1972, the drums were also processed according to inspection and sealing procedures; and, since 1982, vermiculite instead of Oil-Dri was placed on top of the outer sealed PE drum bag. A small number of the drums are lead-lined. Also, Oil-Dri was added to the glass waste if moisture was present.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

covered pads will begin in the next 1 - 2 years.

Waste Stream ID:

IN-W243.808

Waste Stream ID: IN-W245.301 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| _        |                  | _            |       |   |                           |                    | _               |                          |
|----------|------------------|--------------|-------|---|---------------------------|--------------------|-----------------|--------------------------|
| HQ ID    | IN-W245          | Stream Name  | JNLEA | ACHED RASHIG RINGS:Direct Ship          |                           |                    | Inventor        | y Date 9/30/2002         |
| Local ID | ID-RFO-441T      | Handling     | CH    | Final Waste Form Inorganic Non-Metal    | Waste Matrix Code S3117   | Activity Con       | centrations Dec | ayed to CY 2002          |
| Final Wa | ste Form Descrip | tors         |       |   | Waste Material Parameters |                    | Final Form R    | adionuclides             |
| Categ    | Jory: Defense TR | RU Waste Sou | ırce: | Materials Production/Recovery Effluents |                           | Average<br>Density |                 | Typical<br>Concentration |
|          |                  |              |       |   | Matarial Danamatan        | /1/ O\             | 1 1             | (0:/0)                   |

## Waste Volume Detail (m3)

| As-Generated volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum                 | 333.6  | 0.0   | 333.6 |
| As-Generated Total   | 333.6  | 0.0   | 333.6 |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| SWB                  | 124.7  | 0.0   | 124.7 |
| TDOP                 | 627.5  | 0.0   | 627.5 |

Final Form Total

752.2

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 225.37                        |
| Cellulosics                    | 14.49                         |
| Rubber                         | 0.00                          |
| Plastics                       | 5.06                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.86                        |
| Packaging Material, Plastic    | 22.40                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.82E-01                            |  |  |  |
| Np-237                   | 4.35E-07                            |  |  |  |
| Pu-238                   | 6.09E-02                            |  |  |  |
| Pu-239                   | 1.90E+00                            |  |  |  |
| Pu-240                   | 4.31E-01                            |  |  |  |
| Pu-241                   | 6.15E+00                            |  |  |  |
| Pu-242                   | 3.11E-05                            |  |  |  |
| Th-229                   | 2.82E-15                            |  |  |  |
| Th-230                   | 1.41E-10                            |  |  |  |
| Th-232                   | 5.34E-17                            |  |  |  |
| U-233                    | 8.78E-12                            |  |  |  |
| U-234                    | 2.37E-06                            |  |  |  |
| U-235                    | 2.44E-08                            |  |  |  |
| U-236                    | 1.66E-07                            |  |  |  |
| U-238                    | 6.10E-14                            |  |  |  |

#### **Waste Stream Description**

This waste stream, generated at the Rocky Flats Plant, consists of boronated glass rings used to minimize neutron multiplication in liquid storage tanks. Unleached Rashig Rings were used from 1971-79 as a separate stream and then combined with content code 442, Leached Rashig Rings. The rings are about 1.75 inch high and 1.5 inch in diameter, with a 0.25-inch wall thickness. The rings are heat and chemical resistant borosilicate glass with 11.8 - 13.8 weight % B2O3, with an isotopic content of 10B/11B of not less than 0.24. Some of the rings, which had above-discard amounts of plutonium, were leached with nitric acid to recover the plutonium and then rinsed with water and dried. Some of the rings may be contaminated with small amounts of oil.

752.2

No sludges or free liquids should be present. No explosive or pyrophoric materials should be in the waste. Trace amounts of nitric acid or organic contaminants may be present.

0.0

The rings are triple contained in PE or PVC and placed in a 10-inch high, 15.5-inch diameter Fibre-Pak. Two Fibre-Paks are placed inside a prepared 55-gallon drum according to the standard pre-1972 and post-1972 drum packing procedures. A few of the drums contain broken rashig rings in taped-closed, 4-liter PE bottles with double bags inside the bottles.

Each drum was assayed. Since 1972, the drums were also processed according to inspection and sealing procedures; and, since 1982, vermiculite instead of Oil-Dri was placed on top of the outer sealed PE drum bag. A small number of the drums are lead-lined. Also, Oil-Dri was added to the glass waste if moisture was present.

#### **Management Comments**

Waste Stream ID: IN-W247.810 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |   | .,                       |             |           |                              |                               |                 |                                     |
|----------|---|--------------------------|-------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID    |   | Inventory Date 9/30/2002 |             |           |                              |                               |                 |                                     |
| Local ID | ID-RFO-442T Handling CH Final Wa  | ste Form                 | norganic i  | Non-Metal | Waste Matrix Code S3117      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa | aste Form Descriptors   |                          |             |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
|          | gory: Defense TRU Waste Source: Materials Productions Olume Detail (m3) | on/Recove                | ery Effluen | ts        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes  |                          |             |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 8.74E-02                            |
|          | ninerType   | Stored                   | Proj.       | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 2.09E-07                            |
| Box /    | Misc.   | 76.1                     | 0.0         | 76.1      | Other Metal/Alloys           | 0.00                          | Pu-238          | 2.92E-02                            |
| Drum     | / 55 gallon   | 261.9                    | 0.0         | 261.9     | Other Inorganic Materials    | 125.68                        | Pu-239          | 9.18E-01                            |
|          | <u> </u>  | <u> </u>                 |             |           | Cellulosics                  | 15.05                         | Pu-240          | 2.09E-01                            |
|          | As-Generated Total  | 338.0                    | 0.0         | 338.0     | Rubber                       | 0.00                          | Pu-241          | 2.97E+00                            |
| Final    | Form Volumes  |                          |             |           | Plastics                     | 6.57                          | Pu-242          | 1.50E-05                            |
|          | ninerTyne   | Stored                   | Proi        | Total     | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 1.35E-15                            |

124.7

637.1

761.8

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Vitrified

Soils

0.00

0.00

0.00

0.00

208.85

22.41

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

6.75E-11

2.59E-17

4.20E-12

1.14E-06

1.95E-07

8.05E-08

2.94E-14

#### **Waste Stream Description**

**SWB** 

TDOP

This waste stream, generated at the Rocky Flats Plant, consists of boronated glass rings used to minimize neutron multiplication in liquid storage tanks. Content Code 441, Unleached Rashig Rings, were used from 1971-79 as a separate stream, and then combined with Content Code 442, Leached Rashig Rings. The rings are about 1.75 inch high and 1.5 inch in diameter, with a 0.25-inch wall thickness. The rings are heat and chemical resistant borosilicate glass with 11.8 - 13.8 weight % B2O3, with an isotopic content of 10B/11B of not less than 0.24. Some of the rings, which had above-discard amounts of plutonium, were leached with nitric acid to recover the plutonium and then rinsed with water, and dried. Some of the rings may be contaminated with small amounts of oil.

No sludges or free liquids should be present. No explosive or pyrophoric materials should be in the waste. Trace amounts of nitric acid or organic contaminants may be present.

0.0

0.0

124

637.

761.8

Final Form Total

The rings are triple contained in PE or PVC and placed in a 10-inch high, 15.5-inch diameter Fibre-Pak. Two Fibre-Paks are placed inside a prepared 55-gallon drum according to the standard pre-1972 and post-1972 drum packing procedures. A few of the drums contain broken rashig rings in taped-closed, 4-liter PE bottles with double bags inside the bottles.

Each drum was assayed. Since 1972, the drums were also processed according to inspection and sealing procedures; and, since 1982, vermiculite instead of Oil-Dri was placed on top of the outer sealed PE drum bag. A small number of the drums are lead-lined. Also, Oil-Dri was added to the glass waste if moisture was present.

#### **Management Comments**

0.00

0.00

0.00

209.16

21.50

0.00

0.00

#### Appendix J Waste Stream ID: IN-W249.527 TRU WASTE BASELINE INVENTORY WASTE PROFILE

4.8

6.7

**Final Form Total** 

0.0

0.0

| HQ ID    | IN-W249           | Stream Name GLASS, FLASKS, SAMP | LE VIALS,  | ETC.:Dire   | ct Ship   |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|-------------------|---------------------------------|------------|-------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | ID-MDO-810T       | Handling CH Final Wa            | aste Form  | Inorganic I | Non-Metal | Waste Matrix Code S3117      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa | aste Form Descrip | tors                            |            |             |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| ·        | gory: Defense TF  | ,                               | tory Waste |             |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes  |                                 |            |             |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-238          | 2.34E+02                            |
| Conta    | inerType          |                                 | Stored     | Proj.       | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239          | 1.86E+00                            |
| Drum     | <u> </u>          |                                 | 2.7        | •           |           | Other Metal/Alloys           | 1.03                          | Th-230          | 5.40E-07                            |
|          |                   |                                 |            | 0.0         |           | Other Inorganic Materials    | 187.29                        | U-234           | 9.08E-03                            |
|          |                   | As-Generated Total              | 2.7        | 0.0         | 2.7       | Cellulosics                  | 0.00                          | U-235           | 2.38E-08                            |
| Final    | Form Volumes      |                                 |            |             | 1         | Rubber                       | 0.68                          |                 | •                                   |
|          | inerType          |                                 | Stored     | Proj.       | Total     | Plastics                     | 20.30                         |                 |                                     |
| SWB      |                   |                                 | 1.9        | •           |           | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| TDOD     | <u> </u>          |                                 | 1.0        |             |           | Cement (Solidified)          | 0.00                          |                 |                                     |

4.8

6.7

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

#### **Waste Stream Description**

TDOP

This waste stream, generated at Mound Laboratory, consists mostly of whole and broken glassware and glass sample vials. The majority of the glass is pyrex. Limited amounts of other noncombustibles, material similar to that in Content Codes 803, 805, 811, and 826 may be present. Even though some of the glassware is broken, fines should not exceed WIPP-WAC limits for repirable or dispersed fines. No inorganic sludges, no explosive, pyrophoric, or corrosive materials should be in the waste.

Most of the glassware is broken into pieces about 1 inch in diameter to reduce total volume. The material is packaged into 1 or 2-quart metal cans with lids. Each can is assayed for plutonium content and then placed with up to four other cans into a sleeve bag, which is sealed with tape. Up to five sleeve bags are placed inside a drum. Each drum is lined with a 90-mil drum liner, which is lined with a PE drum bag. Plywood spacers are placed between the rigid liner lid and the drum lid.

#### **Management Comments**

| IRU V   | VASIE     | SASELI       | NE INVENI | IORY WASTE PROFILE         |                               |            |   |
|---|-----------|--------------|-----------|----------------------------|-------------------------------|------------|---|
| HQ ID IN-W263 Stream Name CONTAMINATED SOIL Local ID ID-MDO-842T Handling CH Final Wa | aste Form | Solidified I | norganics | Waste Matrix Code S4100    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |           |              |           | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3)          | ) Waste   |              |           | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |           |              |           | Iron-Base Metal/Alloys     | 0.09                          | Am-241     | 6.70E-05                                |
| ContainerType   | Stored    | Proj.        | Total     | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 1.57E-10                                |
| Box / 4 ft X 4 ft X 8 ft  | 123.6     |              |           | Other Metal/Alloys         | 0.00                          | Pu-238     | 5.83E-01                                |
|   | I.        |              |           | Other Inorganic Materials  | 5.67                          | Pu-239     | 3.01E-02                                |
| As-Generated Total  | 123.6     | 0.0          | 123.6     | Cellulosics                | 16.82                         | Pu-240     | 4.77E-05                                |
| Final Form Volumes  |           |              |           | Rubber                     | 0.00                          | Pu-241     | 2.34E-03                                |
| ContainerType   | Stored    | Proj.        | Total     | Plastics                   | 0.00                          | Pu-242     | 4.18E-08                                |

45.4

234.7

280.1

45.4

234.7

280.1

Final Form Total

0.0

0.0

0.0

Solidified, Inorganic Matrix

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Cement (Solidified)

Vitrified

Soils

0.00

0.00

0.00

0.00

542.81

208.85

29.52

0.00

0.00

Th-229

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

9.73E-19

1.35E-09

5.91E-21

3.10E-15

2.26E-05

3.86E-10

1.84E-11

8.20E-17

This waste, generated at Mound Laboratories, consists of soil, including small rocks and pebbles, generated from cleanup of a leak. All soil waste was dry when packaged. A few waste boxes also include picks, shovels, metal cans, rubber gloves, booties, respirators, plastic, and possibly an air hammer and chisel. Soils waste was packaged in small, plastic lined plywood boxes (42 x 20 x 39 inch) other waste was then placed on top of the soil before the box was sealed. Four of the small boxes were then packaged in a standard larger waste box (4 x 4 x 7 feet) lined with fiberglass-reinforced polyester. Assay was performed using radiochemical analysis on core samples taken from the contaminated area.

#### **Management Comments**

**Waste Stream Description** 

SWB

TDOP

### Waste Stream ID: IN-W267.1005

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W267 Stream Name GRIT:Direct Ship  |           |             |         |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-----------|-------------|---------|------------------------------|-------------------------------|------------|-------------------------------------|
|   |           |             |         |                              |                               |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |             |         | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Production Waste Volume Detail (m3) | on/Recove | ery Effluen | ts      | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |             |         | Iron-Base Metal/Alloys       | 1.64                          | Am-241     | 1.37E+00                            |
| ContainerType   | Stored    | Proj.       | Total   | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.21E-06                            |
| Drum  | 3.7       | _           |         | Other Metal/Alloys           | 0.00                          | Pu-238     | 4.72E-01                            |
|   |           | l           | l       | Other Inorganic Materials    | 39.88                         | Pu-239     | 1.48E+01                            |
| As-Generated Total  | 3.7       | 0.0         | 3.7     | Cellulosics                  | 4.44                          | Pu-240     | 3.36E+00                            |
| Final Form Volumes  |           |             |         | Rubber                       | 0.00                          | Pu-241     | 4.79E+01                            |
| ContainerType   | Stored    | Proj.       | Total   | Plastics                     | 6.03                          | Pu-242     | 2.42E-04                            |
| SWB   | 1.9       |             |         | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.99E-14                            |
| TDOP  | 9.6       |             |         | Cement (Solidified)          | 0.00                          | Th-230     | 1.09E-09                            |
| <u> </u>  |           |             | <u></u> | Vitrified                    | 0.00                          | Th-232     | 4.16E-16                            |
| Final Form Total  | 11.5      | 0.0         | 11.5    | Solidified, Organic Matrix   | 0.00                          | U-233      | 6.34E-11                            |
|   |           |             |         | Soils                        | 0.00                          | U-234      | 1.83E-05                            |
|   |           |             |         | Packaging Material, Steel    | 208.85                        | U-235      | 1.90E-07                            |
|   |           |             |         | Packaging Material, Plastic  | 22.22                         | U-236      | 1.29E-06                            |
|   |           |             |         | Packaging Material, Lead     | 0.00                          | U-238      | 4.75E-13                            |

#### **Waste Stream Description**

This waste stream, generated at the Rocky Flats Plant, consists of grit such as aluminum oxide and iron fines and pellets used in grit-blasting operations and spent silica gel desiccant.

The only organic material is the packaging, which averages about 5 lb/ft3, excluding the drum liner. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

Packaging Material, Steel Plug

0.00

The material is contained in 55-gallon drums. Inside the drums, the grit may be contained in PVC or PE bags in Vollrath stainless steel cans, or in 1-gallon PE bottles inside PVC and PE bags. Silica gel is placed directly into the prepared drums. Drums were prepared and inspected according to pre- and post-1972 procedures.

#### **Management Comments**

| HQ ID    | IN-W309           | Stream Name | ORGA  | NIC SETUPS, OIL SOLIDS:Uncert           |                           |            | Inventor          | y Date 9/30/2002 |
|----------|-------------------|-------------|-------|---|---------------------------|------------|-------------------|------------------|
| Local ID | ID-RFO-003T       | Handling    | CH    | Final Waste Form Inorganic Non-Metal    | Waste Matrix Code S3114   | Activity C | oncentrations Dec | ayed to CY 2002  |
| <u>_</u> |                   | _           |       |   |                           |            |                   |                  |
| Final Wa | ste Form Descrip  | tors        |       |   | Waste Material Parameters |            | Final Form R      | adionuclides     |
| Categ    | ory: Defense TF   | RU Waste So | urce: | Materials Production/Recovery Effluents |                           | Average    |                   | Typical          |
|          |                   |             |       |   |                           | Density    |                   | Concentration    |
| Waste Vo | olume Detail (m3) |             |       |   | Material Parameter        | (kg/m3)    | Isotope           | (Ci/m3)          |

| As-Generated Volumes |      |        |       |        |
|----------------------|------|--------|-------|--------|
| ContainerType        |      | Stored | Proj. | Total  |
| Box / Misc.          |      | 38.0   | 0.0   | 38.0   |
| Drum                 |      | 1533.2 | 0.0   | 1533.2 |
|                      | A- O | 1571.0 | 0.0   | 1571.0 |

| <b>As-Generated Total</b> | 1571.2 | 0.0 | 1571.2 |
|---------------------------|--------|-----|--------|

| Final Form Volumes |        |       |        |
|--------------------|--------|-------|--------|
| ContainerType      | Stored | Proj. | Total  |
| SWB                | 1273.9 | 0.0   | 1273.9 |
| TDOP               | 6456.9 | 0.0   | 6456.9 |

Final Form Total 7730.8 7730.8

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 110.92                        |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 2.64                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| rinai roini Radionuciides |                                     |  |  |  |  |  |
|---------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                   | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                    | 7.92E-02                            |  |  |  |  |  |
| Np-237                    | 2.72E-07                            |  |  |  |  |  |
| Pu-238                    | 1.17E-02                            |  |  |  |  |  |
| Pu-239                    | 3.68E-01                            |  |  |  |  |  |
| Pu-240                    | 8.33E-02                            |  |  |  |  |  |
| Pu-241                    | 1.19E+00                            |  |  |  |  |  |
| Pu-242                    | 5.99E-06                            |  |  |  |  |  |
| Th-229                    | 2.70E-15                            |  |  |  |  |  |
| Th-230                    | 2.71E-11                            |  |  |  |  |  |
| Th-232                    | 1.03E-17                            |  |  |  |  |  |
| U-233                     | 6.99E-12                            |  |  |  |  |  |
| U-234                     | 4.56E-07                            |  |  |  |  |  |
| U-235                     | 4.72E-09                            |  |  |  |  |  |
| U-236                     | 3.21E-08                            |  |  |  |  |  |
| U-238                     | 1.18E-14                            |  |  |  |  |  |

#### **Waste Stream Description**

Organic setups are produced from treatment of liquid organic wastes generated by various plutonium and nonplutonium operations. The organic wastes are mixed with calcium silicate to form a grease of paste-like material. Small amounts of oil-dri absorbent are usually mixed with the waste.

Organic wastes such as degreasing agents (primarily trichloroethane), lathe coolant (machining oil and carbon tetrachloride), and hydraulic oils are generated primarily by plutonium fabrication operations. Other organic wastes include carbon tetrachloride; trichloroethylene; hydraulic, gearbox, and spindle oils; and trace concentrations of miscellaneous organic laboratory wastes. (organophosphates, nitrobenzene, etc.) In addition, unknown volumes of oil containing polychlorinated biphenyls (PCB) were processed with other organic wastes until 1979. Degreasing solvents generated by Building 444 operations are contaminated with beryllium. The PCB-contaminated wastes will be treated to meet WIPP-WAC.

#### **Management Comments**

| 11/0  | WAOIL      | AOLLII       | AL HAVEIA | TORT WASTET ROTTLE         |                               |            |                                     |
|---|------------|--------------|-----------|----------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID         IN-W315         Stream Name         EVAPORATOR SALTS           Local ID         ID-RFO-005T         Handling         CH         Final W | Vaste Form | Solidified I | norganics | Waste Matrix Code S3143    | Activity Co                   |            | ory Date 9/30/2002                  |
| Final Waste Form Descriptors  | _          |              |           | Waste Material Parameters  |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple S Waste Volume Detail (m3)   | Sources    |              |           | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |              |           | Iron-Base Metal/Alloys     | 4.69                          | Am-241     | 2.66E+01                            |
| ContainerType   | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 1.13E-04                            |
| Box / Misc.   | 3.2        | 0.0          |           | Other Metal/Alloys         | 2.72                          | Pu-238     | 1.10E-02                            |
| Drum  | 11.0       |              |           | Other Inorganic Materials  | 7.70                          | Pu-239     | 3.45E-01                            |
|   |            |              |           | Cellulosics                | 69.92                         | Pu-240     | 7.82E-02                            |
| As-Generated Tota   | 14.2       | 0.0          | 14.2      | Rubber                     | 0.00                          | Pu-241     | 1.11E+00                            |
|   |            |              |           | Plastics                   | 0.53                          | Pu-242     | 5.61F-06                            |

| rillal Form Volumes |        |       |       |
|---------------------|--------|-------|-------|
| ContainerType       | Stored | Proj. | Total |
| SWB                 | 5.7    | 0.0   | 5.7   |
| TDOP                | 28.7   | 0.0   | 28.7  |
|                     |        |       |       |

| Final Form Total 34.4 0.0 | 34.4 |
|---------------------------|------|
|---------------------------|------|

| waste material Parameters      |                               |  |  |  |  |  |  |  |  |  |
|--------------------------------|-------------------------------|--|--|--|--|--|--|--|--|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |  |  |  |  |  |  |  |  |
| Iron-Base Metal/Alloys         | 4.69                          |  |  |  |  |  |  |  |  |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |  |  |  |  |  |  |  |  |
| Other Metal/Alloys             | 2.72                          |  |  |  |  |  |  |  |  |  |
| Other Inorganic Materials      | 7.70                          |  |  |  |  |  |  |  |  |  |
| Cellulosics                    | 69.92                         |  |  |  |  |  |  |  |  |  |
| Rubber                         | 0.00                          |  |  |  |  |  |  |  |  |  |
| Plastics                       | 0.53                          |  |  |  |  |  |  |  |  |  |
| Solidified, Inorganic Matrix   | 0.00                          |  |  |  |  |  |  |  |  |  |
| Cement (Solidified)            | 0.00                          |  |  |  |  |  |  |  |  |  |
| Vitrified                      | 0.00                          |  |  |  |  |  |  |  |  |  |
| Solidified, Organic Matrix     | 0.00                          |  |  |  |  |  |  |  |  |  |
| Soils                          | 0.00                          |  |  |  |  |  |  |  |  |  |
| Packaging Material, Steel      | 208.85                        |  |  |  |  |  |  |  |  |  |
| Packaging Material, Plastic    | 22.22                         |  |  |  |  |  |  |  |  |  |
| Packaging Material, Lead       | 0.00                          |  |  |  |  |  |  |  |  |  |
| Packaging Material, Steel Plug | 0.00                          |  |  |  |  |  |  |  |  |  |

#### Th-229 1.30E-12 Th-230 2.54E-11 Th-232 9.68E-18 U-233 3.19E-09 U-234 4.28E-07 U-235 4.42E-09 U-236 3.02E-08 U-238 1.10E-14

#### **Waste Stream Description**

Waste is generated at Rocky Flats Plant from aqueous waste treatment in building 774. Waste consists of a salt residue generated from concentrating and drying liquid waste from the solar evaporation ponds. The approximate chemical makeup of the salt is 60% sodium nitrate, 30% potassium nitrate, and 10% miscellaneous. Limited amounts of other wastes such as surgeons' gloves, paper, rags, and metal may be found in the waste drums. Portland cement was added to damp or wet salt when necessary.

The majority or salt drums in storage at the INEL should be contaminated with <10 nCi/g TRU. Salt waste is no longer shipped to the INEL.

Since 1972, drums have been inspected for free liquids, proper packaging, and use of the proper content code. After inspection, approximately 1 to 2 quarts of Oil-Dri was placed on top of the outer sealed polyethylene drum bag.

#### **Management Comments**

#### Appendix J IN-W319.584 TRU WASTE BASELINE INVENTORY WASTE PROFILE

4.8

**Final Form Total** 

0.0

|                  |  | .,  |             |       |                              |                               |                  |                                     |  |  |
|------------------|--|---|-------------|-------|------------------------------|-------------------------------|------------------|-------------------------------------|--|--|
| HQ ID            | IQ ID IN-W319 Stream Name LEACHED RESIN:Direct Ship                  |   |             |       |                              |                               |                  |                                     |  |  |
| Local ID         | ID-RFO-431T Handling CH Final Wa                                     | ste Form         Solidified Organics         Waste Matrix Code         S3211         Activity Con |             |       |                              |                               | oncentrations De | centrations Decayed to CY 2002      |  |  |
| Final Wa         | aste Form Descriptors  |   |             |       | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |  |  |
| Categ<br>Waste V | gory: Defense TRU Waste Source: Materials Product folume Detail (m3) | ion/Recove  | ery Effluen | ts    | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Ge            | enerated Volumes   |   |             |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241           | 5.05E-01                            |  |  |
| Conta            | inerType   | Stored  | Proj.       | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 1.18E-06                            |  |  |
| Drum             |  | 1.2   | •           |       | Other Metal/Alloys           | 0.00                          | Pu-238           | 1.73E-01                            |  |  |
|                  |  |   |             |       | Other Inorganic Materials    | 0.00                          | Pu-239           | 5.46E+00                            |  |  |
|                  | As-Generated Total   | 1.2   | 0.0         | 1.2   | Cellulosics                  | 0.00                          | Pu-240           | 1.24E+00                            |  |  |
| Final I          | Form Volumes   |   |             |       | Rubber                       | 0.00                          | Pu-241           | 1.76E+01                            |  |  |
| Conta            | inerType   | Stored  | Proj.       | Total | Plastics                     | 8.15                          | Pu-242           | 8.90E-05                            |  |  |
| TDOP             |  | 4.8   | •           |       | Solidified, Inorganic Matrix | 0.00                          | Th-229           | 7.33E-15                            |  |  |

4.8

### Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 10.48 Soils 0.00 Packaging Material, Steel 208.43 Packaging Material, Plastic 0.00 Packaging Material, Lead 0.00 Packaging Material, Steel Plug 0.00

| Final Form Radionuclides |                                     |  |  |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |  |
| Am-241                   | 5.05E-01                            |  |  |  |  |  |  |  |
| Np-237                   | 1.18E-06                            |  |  |  |  |  |  |  |
| Pu-238                   | 1.73E-01                            |  |  |  |  |  |  |  |
| Pu-239                   | 5.46E+00                            |  |  |  |  |  |  |  |
| Pu-240                   | 1.24E+00                            |  |  |  |  |  |  |  |
| Pu-241                   | 1.76E+01                            |  |  |  |  |  |  |  |
| Pu-242                   | 8.90E-05                            |  |  |  |  |  |  |  |
| Th-229                   | 7.33E-15                            |  |  |  |  |  |  |  |
| Th-230                   | 4.00E-10                            |  |  |  |  |  |  |  |
| Th-232                   | 1.53E-16                            |  |  |  |  |  |  |  |
| U-233                    | 2.33E-11                            |  |  |  |  |  |  |  |
| U-234                    | 6.73E-06                            |  |  |  |  |  |  |  |
| U-235                    | 7.00E-08                            |  |  |  |  |  |  |  |
| U-236                    | 4.78E-07                            |  |  |  |  |  |  |  |
| U-238                    | 1.75E-13                            |  |  |  |  |  |  |  |

#### **Waste Stream Description**

Waste Stream ID:

This waste, generated at the Rocky Flats Plant, consists of anionic and cationic exchange resins used in the purification and recovery of plutonium and americium, respectively. It is believed that the resins were Content Code 430 resins that were processed by leaching to recover plutonium. Content code was used during 1972 only.

#### **Management Comments**

### Waste Stream ID: IN-W321.1023

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W321 Stream Name UNLEACHED ION COLU                                    | MN RESIN                     | I:Direct Sh | nip      |                              |                               | Inventory Date 9/30/2002 |                                     |  |
|---|------------------------------|-------------|----------|------------------------------|-------------------------------|--------------------------|-------------------------------------|--|
| Local ID   ID-RFO-430T   Handling   CH   Final Wa                               | ste Form Solidified Organics |             | Organics | Waste Matrix Code S3211      | Activity Co                   | ncentrations De          | entrations Decayed to CY 2002       |  |
| Final Waste Form Descriptors  |                              |             |          | Waste Material Parameters    |                               | Final Form               | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Materials Producti Waste Volume Detail (m3) | on/Recove                    | ery Effluen | ts       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |                              |             |          | Iron-Base Metal/Alloys       | 0.00                          | Am-241                   | 1.83E+00                            |  |
| ContainerType   | Stored                       | Proj.       | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237                   | 4.27E-06                            |  |
| Drum  | 6.0                          | 0.0         |          | Other Metal/Alloys           | 0.00                          | Pu-238                   | 6.28E-01                            |  |
|   | 0.0                          | 0.0         | 0.0      | Other Inorganic Materials    | 0.00                          | Pu-239                   | 1.97E+01                            |  |
| As-Generated Total  | 6.0                          | 0.0         | 6.0      | Cellulosics                  | 0.00                          | Pu-240                   | 4.46E+00                            |  |
| Final Form Volumes  |                              |             | 1        | Rubber                       | 0.00                          | Pu-241                   | 6.36E+01                            |  |
| ContainerType   | Stored                       | Proj.       | Total    | Plastics                     | 14.54                         | Pu-242                   | 3.21E-04                            |  |
| SWB   | 1.9                          |             |          | Solidified, Inorganic Matrix | 0.00                          | Th-229                   | 2.65E-14                            |  |
| TDOP  | 9.6                          |             |          | Cement (Solidified)          | 0.00                          | Th-230                   | 1.45E-09                            |  |
| 1501  | 0.0                          | 0.0         | 0.0      | Vitrified                    | 0.00                          | Th-232                   | 5.53E-16                            |  |
| Final Form Total  | 11.5                         | 0.0         | 11.5     | Solidified, Organic Matrix   | 18.70                         | U-233                    | 8.43E-11                            |  |
|   |                              |             |          | Soils                        | 0.00                          | U-234                    | 2.44E-05                            |  |

#### **Waste Stream Description**

This waste, generated at the Rocky Flats Plant, consists of anionic and cationic exchange resins used in the purification and recovery of plutonium and americium, respectively. The anionic resins were DOWEX 1-X4 and the cationic resins were DOWEX 50W-X8, both being polystyrene-divinylbenzene copolymers.

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

208.85

2.64

0.00

0.00

U-235

U-236

U-238

2.53E-07

1.72E-06

6.30E-13

### **Management Comments**

| HQ ID IN-W322 Stream Name SAMPLE FUEL:Direct                                  | Ship          |             |           |                              |                               | Invent          | ory Date N/A                        |
|---|---------------|-------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-TRA-154TN Handling CH Final V                                     | Waste Form    | Inorganic I | Non-Metal | Waste Matrix Code S5121      | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |               |             |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple S Waste Volume Detail (m3) | Sources       |             |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |               |             |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-239          | 4.83E+00                            |
| ContainerType   | Stored        | Proj.       | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-240          | 9.99E-01                            |
| Drum  | 0.4           |             |           | Other Metal/Alloys           | 0.00                          | Th-232          | 1.24E-16                            |
|   |               | I           |           | Other Inorganic Materials    | 139.10                        | U-235           | 1.31E-04                            |
| As-Generated Tot  | <b>al</b> 0.4 | 0.0         | 0.4       | Cellulosics                  | 0.00                          | U-236           | 3.85E-07                            |
| Final Form Volumes  |               |             |           | Rubber                       | 0.00                          |                 |                                     |
| ContainerType   | Stored        | Proj.       | Total     | Plastics                     | 0.00                          |                 |                                     |
| SWB used to overpack 55 gallon drums  | 1.9           |             |           | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
|   |               |             | <u> </u>  | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Tot  | <b>al</b> 1.9 | 0.0         | 1.9       | Vitrified                    | 0.00                          |                 |                                     |
|   |               |             |           | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |               |             |           | Soils                        | 0.00                          |                 |                                     |
|   |               |             |           | Packaging Material, Steel    | 211.00                        |                 |                                     |
|   |               |             |           | Packaging Material, Plastic  | 16.00                         |                 |                                     |
|   |               |             |           | Packaging Material, Lead     | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream was generated at the INEL. These wastes include actinide neutron sources, a radium needle, small vials of fuel, and metal containers of experimental fuel capsules.

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

Packaging Material, Steel Plug

0.00

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15-gallon drums, and then placed in 55-gallon drums.

#### **Management Comments**

| HQ ID IN-W322 Stream Name SAMPLE FUEL:Cert-repa   |        |       |       |  |                              |  |            | ory Date 4/30/1995                  |  |
|---|--------|-------|-------|--|------------------------------|--|------------|-------------------------------------|--|
| Local ID   ID-TRA-154TN   Handling   CH   Final Waste Form   Inorganic Non-Metal   Waste Matr |        |       |       |  | Waste Matrix Code S5121      | Matrix Code S5121 Activity Concentrations Decayed to |            |                                     |  |
| Final Waste Form Descriptors  |        |       |       |  | Waste Material Parameters    |  | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3)           | ırces  |       |       |  | Material Parameter           | Average<br>Density<br>(kg/m3)                        | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |        |       |       |  | Iron-Base Metal/Alloys       | 0.00   | Pu-239     | 1.46E+01                            |  |
| ContainerType   | Stored | Proj. | Total |  | Aluminum-Base Metal/Alloys   | 0.00   | Pu-240     | 3.03E+00                            |  |
| Drum  | 1.5    | 0.0   |       |  | Other Metal/Alloys           | 0.00   | Th-232     | 3.75E-16                            |  |
|   |        |       |       |  | Other Inorganic Materials    | 421.30   | U-235      | 3.96E-04                            |  |
| As-Generated Total  | 1.5    | 0.0   | 1.5   |  | Cellulosics                  | 0.00   | U-236      | 1.17E-06                            |  |
| Final Form Volumes  |        |       |       |  | Rubber                       | 0.00   | 1          | -                                   |  |
| ContainerType   | Stored | Proj. | Total |  | Plastics                     | 0.00   |            |                                     |  |
| 55 Gallon Drum  | 1.7    | 0.0   | 1.7   |  | Solidified, Inorganic Matrix | 0.00   |            |                                     |  |
|   |        |       |       |  | Cement (Solidified)          | 0.00   |            |                                     |  |
| Final Form Total  | 1.7    | 0.0   | 1.7   |  | Vitrified                    | 0.00   |            |                                     |  |
|   |        |       |       |  | Solidified, Organic Matrix   | 0.00   |            |                                     |  |
|   |        |       |       |  | Soils                        | 0.00   |            |                                     |  |
|   |        |       |       |  | Packaging Material, Steel    | 131.00   |            |                                     |  |
|   |        |       |       |  | Packaging Material, Plastic  | 37.00  |            |                                     |  |
|   |        |       |       |  | Packaging Material Lead      | 0.00   |            |                                     |  |

#### **Waste Stream Description**

This waste stream was generated at the INEL. These wastes include actinide neutron sources, a radium needle, small vials of fuel, and metal containers of experimental fuel capsules.

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

Packaging Material, Steel Plug

0.00

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15-gallon drums, and then placed in 55-gallon drums.

#### **Management Comments**

Waste Stream ID: IN-W323.562 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W323 Stream Name COMBUSTIBLE LAB WA  | STE:Direct           | Ship      |             |                              |                               |                  | ory Date N/A                        |
|---|----------------------|-----------|-------------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID ID-INL-153TN Handling CH Final Wa  | ste Form             | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   | oncentrations De | ecayed to CY 200                    |
| Final Waste Form Descriptors  |                      |           |             | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ırces                |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  | As-Generated Volumes |           |             |                              |                               |                  | 2.36E-02                            |
| ContainerType   | Stored               | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 5.53E-08                            |
| Drum  | 0.4                  | 0.0       |             | Other Metal/Alloys           | 0.00                          | Pu-238           | 6.48E-01                            |
|   |                      |           |             | Other Inorganic Materials    | 0.86                          | Pu-239           | 1.32E-01                            |
| As-Generated Total  | 0.4                  | 0.0       | 0.4         | Cellulosics                  | 70.39                         | Pu-241           | 8.24E-01                            |
| Final Form Volumes  |                      |           |             | Rubber                       | 0.79                          | Th-229           | 3.43E-16                            |
| ContainerType   | Stored               | Proj.     | Total       | Plastics                     | 7.03                          | Th-230           | 1.50E-09                            |
| SWB used to overpack 55 gallon drums  | 1.9                  | 0.0       | 1.9         | Solidified, Inorganic Matrix | 0.00                          | U-233            | 1.09E-12                            |
|   | I                    |           |             | Cement (Solidified)          | 0.00                          | U-234            | 2.52E-05                            |
| Final Form Total  | 1.9                  | 0.0       | 1.9         | Vitrified                    | 0.00                          | U-235            | 5.07E-05                            |
|   |                      |           |             | Solidified, Organic Matrix   | 0.00                          |                  | •                                   |
|   |                      |           |             | Soils                        | 0.00                          |                  |                                     |
|   |                      |           |             | Packaging Material, Steel    | 211.00                        |                  |                                     |
|   |                      |           |             |                              |                               |                  |                                     |

#### **Waste Stream Description**

This waste stream was generated at the Argonne National Laboratory-West at the INEL. Most of the waste is organic and combustible materials including paper, wood, PVC and plastic containers and items, rubber gaskets and gloves, leather, rags, towels, Q-tips, tubing, filter media, abrasive media, and metal pieces. Small residuals of moderators and fuel are trapped on the filters. One of the 28 total drums of Content Code 153 waste is stored at the Transuranic Storage Area (TSA) for contact-handled waste. The other 27 drums are stored at the intermediate level transuranic storage facility (ILTSF) for remote handled waste.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

16.00

0.00

0.00

The organic content may exceed 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

Individual waste items may be loose or plastic bagged. Combustibles and noncombustibles are segregated to separate waste cans. Each can is weighed and assayed. The inner waste cans are loaded into an outer waste drum, along with a lead shield plug. Assays are done for each can and for the drums.

The waste stream is non-mixed, because the lead is shielding only and not considered part of waste stream.

#### **Management Comments**

Waste Stream ID: IN-W323.951 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W323 Stream Name COMBUSTIBLE LAB WA                                   | STE:Unce | tifiable |       |                              |                               | Invent                         | ory Date N/A                        |  |
|--|----------|----------|-------|------------------------------|-------------------------------|--------------------------------|-------------------------------------|--|
| ocal ID ID-INL-153TN Handling CH Final Waste Form Inorganic Non-Me             |          |          |       | Waste Matrix Code S5440      | ncentrations De               | centrations Decayed to CY 2002 |                                     |  |
| Final Waste Form Descriptors   |          |          |       | Waste Material Parameters    |                               | Final Form                     | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple So Waste Volume Detail (m3) | urces    |          |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                        | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |          |          |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241                         | 2.54E-01                            |  |
| ContainerType  | Stored   | Proj.    | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237                         | 5.94E-07                            |  |
| RH Insert  | 1.5      |          |       | Other Metal/Alloys           | 0.00                          | Pu-238                         | 6.98E-02                            |  |
|  |          |          |       | Other Inorganic Materials    | 0.00                          | Pu-239                         | 1.43E+00                            |  |
| As-Generated Total   | 1.5      | 0.0      | 1.5   | Cellulosics                  | 0.00                          | Pu-241                         | 8.85E+00                            |  |
| Final Form Volumes   |          |          |       | Rubber                       | 0.00                          | Th-229                         | 3.68E-15                            |  |
| ContainerType  | Stored   | Proj.    | Total | Plastics                     | 0.00                          | Th-230                         | 1.61E-10                            |  |
| 55 Gallon Drum   | 0.2      | 0.0      |       | Solidified, Inorganic Matrix | 0.00                          | U-233                          | 1.17E-11                            |  |
|  |          |          |       | Cement (Solidified)          | 0.00                          | U-234                          | 2.71E-06                            |  |
| Final Form Total   | 0.2      | 0.0      | 0.2   | Vitrified                    | 2500.00                       | U-235                          | 5.48E-04                            |  |
|  |          |          |       | Solidified, Organic Matrix   | 0.00                          | <u> </u>                       |                                     |  |
|  |          |          |       | Soils                        | 0.00                          |                                |                                     |  |
|  |          |          |       | Packaging Material, Steel    | 0.00                          |                                |                                     |  |
|  |          |          |       | Packaging Material Plastic   | 0.00                          |                                |                                     |  |

#### **Waste Stream Description**

This waste stream was generated at the Argonne National Laboratory-West at the INEL. Most of the waste is organic and combustible materials including paper, wood, PVC and plastic containers and items, rubber gaskets and gloves, leather, rags, towels, Q-tips, tubing, filter media, abrasive media, and metal pieces. Small residuals of moderators and fuel are trapped on the filters. One of the 28 total drums of Content Code 153 waste is stored at the Transuranic Storage Area (TSA) for contact-handled waste. The other 27 drums are stored at the intermediate level transuranic storage facility (ILTSF) for remote handled waste.

Packaging Material, Lead
Packaging Material, Steel Plug

465.00

0.00

The organic content may exceed 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

Individual waste items may be loose or plastic bagged. Combustibles and noncombustibles are segregated to separate waste cans. Each can is weighed and assayed. The inner waste cans are loaded into an outer waste drum, along with a lead shield plug. Assays are done for each can and for the drums.

The waste stream is non-mixed, because the lead is shielding only and not considered part of waste stream.

#### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: IN-W332.661

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W332 Stream Name SOLIDIFIED SOLUTION Local ID ID-BCO-204T Handling CH Final W | NS:Direct Sh |              | norganica | Waste Matrix Code S3113      | A athirity Can                |            | ory Date 9/30/2002                  |
|--|--------------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
|  | aste Form    | soliulileu i | norganics |                              | Activity Cor                  |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  Category: Defense TRU Waste Source: Remediation/D&       | D Wasta      |              |           | Waste Material Parameters    | Average                       | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D& Waste Volume Detail (m3)            | D Waste      |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |              |              |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-238     | 3.35E+00                            |
| ContainerType  | Stored       | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239     | 2.70E-02                            |
| Drum   | 1.5          | 0.0          |           | Other Metal/Alloys           | 0.00                          | Th-230     | 7.73E-09                            |
|  |              |              |           | Other Inorganic Materials    | 196.75                        | U-234      | 1.30E-04                            |
| As-Generated Total   | 1.5          | 0.0          | 1.5       | Cellulosics                  | 0.00                          | U-235      | 3.46E-10                            |
| Final Form Volumes   |              |              |           | Rubber                       | 0.00                          |            |                                     |
| ContainerType  | Stored       | Proj.        | Total     | Plastics                     | 0.00                          |            |                                     |
| TDOP   | 4.8          | 0.0          | 4.8       | Solidified, Inorganic Matrix | 199.14                        |            |                                     |
|  |              |              |           | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 4.8          | 0.0          | 4.8       | Vitrified                    | 0.00                          |            |                                     |
|  |              |              |           | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |              |              |           | Soils                        | 0.00                          |            |                                     |
|  |              |              |           | Packaging Material, Steel    | 208.43                        |            |                                     |
|  |              |              |           | Packaging Material, Plastic  | 23.67                         |            |                                     |
|  |              |              |           | Packaging Material, Lead     | 0.00                          |            |                                     |

#### **Waste Stream Description**

This waste comes from Battelle Columbus Labs. It is a turco soap decontamination solution (used to decontaminate glove boxes from a Pu lab) which is solidified in plaster-of-paris.

### **Management Comments**

| HQ ID IN-W337 Stream Name AMERICIUM SOURCES:                                     | Cert-repac | k          |           |                              |                               | Invent         | ory Date 4/30/1995                  |
|--|------------|------------|-----------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID ID-TAN-200T Handling CH Final Wa  | ste Form   | norganic l | Non-Metal | Waste Matrix Code S5121      | Activity Con                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |            |           | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Information  Waste Volume Detail (m3) | n Not Com  | piled      |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |            |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-239         | 1.46E+01                            |
| ContainerType  | Stored     | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-240         | 3.03E+00                            |
| Drum   | 0.2        | 0.0        |           | Other Metal/Alloys           | 0.00                          | Th-232         | 3.75E-16                            |
|  |            |            |           | Other Inorganic Materials    | 421.30                        | U-235          | 3.96E-04                            |
| As-Generated Total   | 0.2        | 0.0        | 0.2       | Cellulosics                  | 0.00                          | U-236          | 1.17E-06                            |
| Final Form Volumes   |            |            |           | Rubber                       | 0.00                          |                |                                     |
| ContainerType  | Stored     | Proj.      | Total     | Plastics                     | 0.00                          |                |                                     |
| 55 Gallon Drum   | 0.2        | 0.0        | 0.2       | Solidified, Inorganic Matrix | 0.00                          |                |                                     |
|  | l          |            |           | Cement (Solidified)          | 0.00                          |                |                                     |
| Final Form Total   | 0.2        | 0.0        | 0.2       | Vitrified                    | 0.00                          |                |                                     |
|  |            |            |           | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|  |            |            |           | Soils                        | 0.00                          |                |                                     |
|  |            |            |           | Packaging Material, Steel    | 131.00                        |                |                                     |
|  |            |            |           | Packaging Material, Plastic  | 37.00                         |                |                                     |
|  |            |            |           | Packaging Material, Lead     | 0.00                          |                |                                     |

#### **Waste Stream Description**

This waste was generated at the Idaho National Engineering Laboratory. It consists of an americium neutron source. No other wastes were included in the drum.

The waste was placed in a carbon steel pipe which was centered in the 55-gallon drum. Cement was added to fill the annular space between the pipe and drum and encapsulate the pipe containing the source.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

## Waste Stream ID: IN-W337.957

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W337 Stream Name AMERICIUM SOURCES:                                    | Direct Ship | 1          |           |                              |                               | Invent          | ory Date N/A                        |
|---|-------------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-TAN-200T Handling CH Final Wa                                       | ste Form    | norganic N | Non-Metal | Waste Matrix Code S5121      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |            |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Information Waste Volume Detail (m3) | n Not Com   | piled      |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |            |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-239          | 4.83E+00                            |
| ContainerType   | Stored      | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-240          | 9.99E-01                            |
| Drum  | 0.2         | 0.0        |           | Other Metal/Alloys           | 0.00                          | Th-232          | 1.24E-16                            |
|   |             |            |           | Other Inorganic Materials    | 139.10                        | U-235           | 1.31E-04                            |
| As-Generated Total  | 0.2         | 0.0        | 0.2       | Cellulosics                  | 0.00                          | U-236           | 3.85E-07                            |
| Final Form Volumes  |             |            |           | Rubber                       | 0.00                          |                 |                                     |
| ContainerType   | Stored      | Proj.      | Total     | Plastics                     | 0.00                          |                 |                                     |
| SWB used to overpack 55 gallon drums  | 1.9         | 0.0        | 1.9       | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
|   |             |            |           | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 1.9         | 0.0        | 1.9       | Vitrified                    | 0.00                          |                 |                                     |
|   |             |            |           | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |             |            |           | Soils                        | 0.00                          |                 |                                     |
|   |             |            |           | Packaging Material, Steel    | 211.00                        |                 |                                     |
|   |             |            |           | Packaging Material, Plastic  | 16.00                         |                 |                                     |

#### **Waste Stream Description**

This waste was generated at the Idaho National Engineering Laboratory. It consists of an americium neutron source. No other wastes were included in the drum.

The waste was placed in a carbon steel pipe which was centered in the 55-gallon drum. Cement was added to fill the annular space between the pipe and drum and encapsulate the pipe containing the source.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

#### **Management Comments**

### Waste Stream ID: IN-W342.652

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W342 Stream Name MISCELLANEOUS          | SOURCES:Direct | ct Ship  |          |                              |                               | Invent     | ory Date N/A                        |  |  |
|--|----------------|--|----------|------------------------------|-------------------------------|------------|-------------------------------------|--|--|
| Local ID ID-INL-157T Handling CH Fin             | al Waste Form  | e Form Uncategorized Metal Waste Matrix Code S3100 Activity Co |          |                              |                               |            | centrations Decayed to CY 2002      |  |  |
| Final Waste Form Descriptors                     |                |  |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |  |
| Category: Defense TRU Waste Source: Source Infor | mation Not Com | piled  |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes                             |                |  |          | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 2.41E+00                            |  |  |
| ContainerType                                    | Stored         | Proj.  | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.03E-05                            |  |  |
| Drum   | 0.2            | 0.0  | 0.2      | Other Metal/Alloys           | 111.26                        | Pu-239     | 2.13E-02                            |  |  |
| <u></u>  |                |  |          | Other Inorganic Materials    | 0.00                          | Pu-240     | 5.53E-18                            |  |  |
| As-Generated 7                                   | Total 0.2      | 0.0  | 0.2      | Cellulosics                  | 0.00                          | Pu-244     | 9.93E-15                            |  |  |
| Final Form Volumes                               |                |  | 1        | Rubber                       | 0.00                          | Th-229     | 1.18E-13                            |  |  |
| ContainerType                                    | Stored         | Proj.  | Total    | Plastics                     | 0.00                          | U-233      | 2.89E-10                            |  |  |
| SWB used to overpack 55 gallon drums             | 1.9            | 0.0  | 1.9      | Solidified, Inorganic Matrix | 0.00                          | U-235      | 2.73E-10                            |  |  |
| , , ,  |                |  | <u>_</u> | Cement (Solidified)          | 0.00                          | U-236      | 6.00E-25                            |  |  |
| Final Form                                       | Total 1.9      | 0.0  | 1.9      | Vitrified                    | 0.00                          | <u> </u>   |                                     |  |  |
|  |                |  |          | Solidified, Organic Matrix   | 0.00                          |            |                                     |  |  |
|  |                |  |          | Soils                        | 0.00                          |            |                                     |  |  |
|  |                |  |          | Packaging Material, Steel    | 211.00                        |            |                                     |  |  |
|  |                |  |          | Packaging Material, Plastic  | 16.00                         |            |                                     |  |  |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at ANL-W. Based on engineering judgment, the waste was assigned to "Inorganic Homogeneous Solids." The waste is assumed to be metallic but of a size that is too small to qualify as debris.

### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

## Waste Stream ID: IN-W342.953

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID IN-W342 Stream Name MISCELLANEOUS SOURCES:Cert-repack  ocal ID ID-INL-157T Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S3100 Activity Concent |           |           |              |                              |                               |                 | Inventory Date 4/30/1999            |  |
|--|-----------|-----------|--------------|------------------------------|-------------------------------|-----------------|-------------------------------------|--|
| Local ID   ID-INL-157T   Handling CH   Final Wa  | ste Form  | ncategori | ized ivietai | Waste Matrix Code S3100      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |  |
| Final Waste Form Descriptors   |           |           |              | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Source Information  Waste Volume Detail (m3)   | n Not Com | piled     |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |           |           |              | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 7.31E+00                            |  |
| ContainerType  | Stored    | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 3.11E-05                            |  |
| Drum   | 0.2       | 0.0       |              | Other Metal/Alloys           | 337.00                        | Pu-239          | 6.46E-02                            |  |
|  |           |           |              | Other Inorganic Materials    | 0.00                          | Pu-240          | 1.68E-17                            |  |
| As-Generated Total   | 0.2       | 0.0       | 0.2          | Cellulosics                  | 0.00                          | Pu-244          | 3.01E-14                            |  |
| Final Form Volumes   |           |           |              | Rubber                       | 0.00                          | Th-229          | 3.57E-13                            |  |
| ContainerType  | Stored    | Proj.     | Total        | Plastics                     | 0.00                          | U-233           | 8.78E-10                            |  |
| 55 Gallon Drum   | 0.4       | 0.0       | 0.4          | Solidified, Inorganic Matrix | 0.00                          | U-235           | 8.28E-10                            |  |
|  |           |           |              | Cement (Solidified)          | 0.00                          | U-236           | 1.82E-24                            |  |
| Final Form Total   | 0.4       | 0.0       | 0.4          | Vitrified                    | 0.00                          |                 |                                     |  |
|  |           |           |              | Solidified, Organic Matrix   | 0.00                          |                 |                                     |  |
|  |           |           |              | Soils                        | 0.00                          |                 |                                     |  |
|  |           |           |              | Packaging Material, Steel    | 131.00                        |                 |                                     |  |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at ANL-W. Based on engineering judgment, the waste was assigned to "Inorganic Homogeneous Solids." The waste is assumed to be metallic but of a size that is too small to qualify as debris.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

0.00

Packaging Material, Steel Plug

### Waste Stream ID: IN-W347.818

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W347 Stream Name ABSORBED LIQUIDS:Dire                                | ct Ship   |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|-----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID ID-AEO-102T Handling CH Final Was                                     | te Form   | Solidified I | norganics | Waste Matrix Code S3113      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |           |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborato  Waste Volume Detail (m3) | ory Waste |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 1.55E-02                            |
|  | Stored    | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 6.59E-08                            |
| Bin  | 45.5      | 0.0          | 45.5      | Other Metal/Alloys           | 0.00                          | Pu-239     | 5.37E-01                            |
| Drum   | 22.3      | 0.0          | 22.3      | Other Inorganic Materials    | 63.97                         | Pu-240     | 9.86E-01                            |
|  | ı         |              |           | Cellulosics                  | 0.00                          | Th-229     | 7.56E-16                            |
| As-Generated Total   | 67.8      | 0.0          | 67.8      | Rubber                       | 0.00                          | Th-230     | 5.99E-15                            |
| Final Form Volumes   |           |              |           | Plastics                     | 0.00                          | Th-232     | 8.19E-08                            |
|  | Stored    | Proj.        | Total     | Solidified, Inorganic Matrix | 137.01                        | U-233      | 1.86E-12                            |
| SWB  | 24.6      | 0.0          | 24.6      | Cement (Solidified)          | 0.00                          | U-234      | 1.02E-10                            |
| TDOP   | 129.3     | 0.0          | 129.3     | Vitrified                    | 0.00                          | U-235      | 2.70E-07                            |
| L  | I         |              |           | Solidified, Organic Matrix   | 0.00                          | U-236      | 3.80E-07                            |
| Final Form Total   | 153.9     | 0.0          | 153.9     | Soils                        | 0.00                          | U-238      | 2.80E-06                            |
|  |           |              |           | Packaging Material, Steel    | 208.84                        |            |                                     |
|  |           |              |           | Packaging Material, Plastic  | 22.45                         |            |                                     |
|  |           |              |           | Packaging Material, Lead     | 0.00                          |            |                                     |

#### **Waste Stream Description**

This waste comes from Argonne National Laboratory-East. It consists of liquids adjusted to pH 10 using NaOH which are then absorbed in vermiculite.

#### **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | IN-W348      | Stream Name | SAND, S | LAG, AND CRUCIBLE HEELS:Direct Ship    |                        |                 | Inventory Date         | 9/30/2002 |
|----------|--------------|-------------|---------|--|------------------------|-----------------|------------------------|-----------|
| Local ID | ID-RFO-393TN | Handling    | СН      | Final Waste Form Solidified Inorganics | Waste Matrix Code S311 | 7 Activity Cond | centrations Decayed to | CY 2002   |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum                 |                    | 10.0   | 0.0   | 10.0  |
|                      | As-Generated Total | 10.0   | 0.0   | 10.0  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| SWB                | 3.8    | 0.0   | 3.8   |
| TDOP               | 19.2   | 0.0   | 19.2  |

**Final Form Total** 22.9 0.0 22.9

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 187.33                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

|         | Typical Concentration |
|---------|-----------------------|
| Isotope | (Ci/m3)               |
| Am-241  | 5.49E-03              |
| Np-237  | 2.33E-08              |
| Pu-238  | 5.78E-01              |
| Pu-239  | 1.82E+01              |
| Pu-240  | 4.12E+00              |
| Pu-242  | 2.97E-04              |
| Th-229  | 2.68E-16              |
| Th-230  | 1.33E-09              |
| Th-232  | 5.11E-16              |
| U-233   | 6.58E-13              |
| U-234   | 2.24E-05              |
| U-235   | 2.33E-07              |
| U-236   | 1.59E-06              |
| U-238   | 5.82E-13              |

#### **Waste Stream Description**

This waste consists of insoluble residue or "heel" generated from processing magnesium oxide sand and pulverized slag and magnesium oxide crucibles to remove above-discard amounts of plutonium. Respirable fines are thought to exceed the WIPP-WAC limits.

The waste stream handling and packaging is as follows: the dried heels were placed into 1/2 and 1-gallon PE bottles. Each bottle was double -bagged out the glovebox in PVC and PE bags. Each bottle was assayed and then placed in prepared 55-gallon drums, about 15-30 bottles per drum. Prior to 1972, the drums were lined with one or two PE bags, which were sealed with tape. Some of these drums may have cardboard liners inside the inner drum bag. After 1972, 90-mil sealed rigid liners were used in addition to one or two PE bags.

Since 1972, drums were inspected (and corrected where needed for free liquids, proper packaging, and proper content code. One to two quarts of Oil-dri was placed on the outer sealed PE drum bag. Starting in february 1982, 3-12 lb of vermiculite was used to fill the space between the outer drum bag and the rigid liner.

#### **Management Comments**

### Waste Stream ID: IN-W353.917

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W353 Stream Name SOLIDIFIED SOLUTIONS                                  | S:Cert-repa | ck  |       |                                |                               | Invent          | ory Date 4/30/1995                  |
|---|-------------|---|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-BTO-050TN Handling CH Final Wa                                      | ste Form    | te Form Solidified Inorganics Waste Matrix Code S3113 |       |                                |                               | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |   |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Informatio  Waste Volume Detail (m3) | n Not Com   | piled   |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |   |       | Iron-Base Metal/Alloys         | 0.00                          | Np-237          | 3.33E-04                            |
| ContainerType   | Stored      | Proj.   | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Pu-239          | 1.20E-01                            |
| Drum  | 0.2         | 0.0   | 0.2   | Other Metal/Alloys             | 0.00                          | Th-229          | 1.14E-11                            |
|   |             |   |       | Other Inorganic Materials      | 461.00                        | U-233           | 1.87E-08                            |
| As-Generated Total  | 0.2         | 0.0   | 0.2   | Cellulosics                    | 0.00                          | U-235           | 1.54E-09                            |
| Final Form Volumes  |             |   |       | Rubber                         | 0.00                          |                 |                                     |
| ContainerType   | Stored      | Proj.   | Total | Plastics                       | 4.24                          |                 |                                     |
| 55 Gallon Drum  | 0.2         | 0.0   | 0.2   | Solidified, Inorganic Matrix   | 0.00                          |                 |                                     |
|   | l           |   |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total  | 0.2         | 0.0   | 0.2   | Vitrified                      | 0.00                          |                 |                                     |
|   |             |   |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |             |   |       | Soils                          | 0.00                          |                 |                                     |
|   |             |   |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|   |             |   |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|   |             |   |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |             |   |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream is from Bettis Atomic Power Laboratory. It consists of a single drum of TRU. No more information is available, but the waste is thought to be solidified inorganic solutions.

#### **Management Comments**

### Waste Stream ID: IN-W357.1022

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W357 Stream Name FLUID BED ASH:Direct Ship                              |                                      |       |                         |                              |                               | Invent            | ory Date 9/30/2002                  |
|--|--------------------------------------|-------|-------------------------|------------------------------|-------------------------------|-------------------|-------------------------------------|
| <u> </u>   | Final Waste Form Inorganic Non-Metal |       | Waste Matrix Code S3111 | Activity Co                  |                               | ecayed to CY 2002 |                                     |
| Final Waste Form Descriptors   |                                      |       |                         | Waste Material Parameters    |                               | Final Form        | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laboratory  Waste Volume Detail (m3) | Waste                                |       |                         | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope           | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                                      |       |                         | Iron-Base Metal/Alloys       | 1.04                          | Pu-238            | 5.42E-03                            |
|  | tored                                | Proj. | Total                   | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239            | 1.71E-01                            |
| Drum   | 1.7                                  | 0.0   | 1.7                     | Other Metal/Alloys           | 0.00                          | Pu-240            | 3.86E-02                            |
|  |                                      |       |                         | Other Inorganic Materials    | 3.39                          | Pu-242            | 2.78E-06                            |
| As-Generated Total   | 1.7                                  | 0.0   | 1.7                     | Cellulosics                  | 5.03                          | Th-230            | 1.25E-11                            |
| Final Form Volumes   |                                      |       |                         | Rubber                       | 0.00                          | Th-232            | 4.79E-18                            |
|  | tored                                | Proj. | Total                   | Plastics                     | 0.78                          | U-234             | 2.11E-07                            |
| TDOP   | 4.8                                  | 0.0   | 4.8                     | Solidified, Inorganic Matrix | 0.00                          | U-235             | 2.19E-09                            |
| <u></u>  |                                      |       |                         | Cement (Solidified)          | 0.00                          | U-236             | 1.49E-08                            |
| Final Form Total   | 4.8                                  | 0.0   | 4.8                     | Vitrified                    | 0.00                          | U-238             | 5.45E-15                            |
|  |                                      |       |                         | Solidified, Organic Matrix   | 0.00                          |                   | •                                   |
|  |                                      |       |                         | Soils                        | 0.00                          |                   |                                     |
|  |                                      |       |                         | Packaging Material, Steel    | 208.43                        |                   |                                     |
|  |                                      |       |                         | Packaging Material, Plastic  | 23.45                         |                   |                                     |
|  |                                      |       |                         | Packaging Material, Lead     | 0.00                          |                   |                                     |

#### **Waste Stream Description**

This waste, generated at the Rocky Flats Plant, consists of ash generated from the experimental pilot and demonstration fluid bed incinerator plants. Combustibles used for experiments were contaminated with low levels of Pu. Ash is packaged in standard RFP drums. Drums were assayed and fissile quantities calculated.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads will begin in the next 1 - 2 years.

Packaging Material, Steel Plug

0.00

Waste Stream ID: IN-W358.854 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W358 Stream Name PU NEUTRON SOURCE   | S:RH Direc | t Ship    |             |                                |                               |                 | ory Date N/A                        |
|---|------------|-----------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-INL-152TN Handling CH Final Wa  | ste Form   | Jncategor | rized Metal | Waste Matrix Code S5420        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces      |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys         | 31.76                         | Pu-238          | 2.07E+02                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 0.26                          | Pu-239          | 9.97E-01                            |
| Drum  | 0.2        | 0.0       |             | Other Metal/Alloys             | 0.03                          | Pu-240          | 1.92E+00                            |
|   |            |           |             | Other Inorganic Materials      | 0.79                          | Th-230          | 1.34E-07                            |
| As-Generated Total  | 0.2        | 0.0       | 0.2         | Cellulosics                    | 26.71                         | Th-232          | 6.89E-17                            |
| Final Form Volumes  |            |           |             | Rubber                         | 2.41                          | U-234           | 4.23E-03                            |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                       | 21.43                         | U-235           | 6.88E-09                            |
| SWB used to overpack 55 gallon drums  | 1.9        | 0.0       | 1.9         | Solidified, Inorganic Matrix   | 0.00                          | U-236           | 3.98E-07                            |
| , ,   |            |           |             | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total  | 1.9        | 0.0       | 1.9         | Vitrified                      | 0.00                          |                 |                                     |
|   |            |           |             | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |            |           |             | Soils                          | 0.00                          |                 |                                     |
|   |            |           |             | Packaging Material, Steel      | 211.00                        |                 |                                     |
|   |            |           |             | Packaging Material, Plastic    | 16.00                         |                 |                                     |
|   |            |           |             | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |            |           |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream was generated at Argonne National Laboratory-West at the INEL. These wastes consist of noncombustible materials including Pu-Be neutron sources (small fuel samples, small sections of moderator, a pu standard, and pu foil), tools, hot cell operating equipment, various containers, and ferrous and nonferrous metals. Some combustible materials may include paper, plastic and PVC containers, rags, Q-tips, string mop heads, and an electrical plug strip and cord.

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15 gallon drums, and then placed in 55-gallon drums. Some individual items may be unbagged.

#### **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W358 Stream Name PU NEUTRON SOURCE                                    | S:CH-Cert- | repack   |          |                              |                               | Invent     | ory Date 4/30/1995                  |  |  |
|--|------------|--|----------|------------------------------|-------------------------------|------------|-------------------------------------|--|--|
| Local ID ID-INL-152TN Handling CH Final Wa                                     | ste Form   | te Form Uncategorized Metal Waste Matrix Code S5420 Activity Con |          |                              |                               |            | centrations Decayed to CY 2002      |  |  |
| Final Waste Form Descriptors   |            |  |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |  |
| Category: Defense TRU Waste Source: Other/Multiple So Waste Volume Detail (m3) | urces      |  |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes   |            |  |          | Iron-Base Metal/Alloys       | 96.20                         | Pu-238     | 6.29E+02                            |  |  |
| ContainerType  | Stored     | Proj.  | Total    | Aluminum-Base Metal/Alloys   | 0.80                          | Pu-239     | 3.02E+00                            |  |  |
| Bin  | 3.5        | 0.0  | 3.5      | Other Metal/Alloys           | 0.10                          | Pu-240     | 5.80E+00                            |  |  |
| L  |            |  |          | Other Inorganic Materials    | 2.40                          | Th-230     | 4.08E-07                            |  |  |
| As-Generated Total   | 3.5        | 0.0  | 3.5      | Cellulosics                  | 80.90                         | Th-232     | 2.08E-16                            |  |  |
| Final Form Volumes   |            |  |          | Rubber                       | 7.30                          | U-234      | 1.28E-02                            |  |  |
| ContainerType  | Stored     | Proj.  | Total    | Plastics                     | 64.90                         | U-235      | 2.08E-08                            |  |  |
| 55 Gallon Drum   | 3.3        | 0.0  | 3.3      | Solidified, Inorganic Matrix | 0.00                          | U-236      | 1.20E-06                            |  |  |
|  | <br>       |  | <u>_</u> | Cement (Solidified)          | 0.00                          |            |                                     |  |  |
| Final Form Total   | 3.3        | 0.0  | 3.3      | Vitrified                    | 0.00                          |            |                                     |  |  |
|  |            |  |          | Solidified, Organic Matrix   | 0.00                          |            |                                     |  |  |
|  |            |  |          | Soils                        | 0.00                          |            |                                     |  |  |
|  |            |  |          | Packaging Material, Steel    | 131.00                        |            |                                     |  |  |
|  |            |  |          | Packaging Material, Plastic  | 37.00                         |            |                                     |  |  |

#### **Waste Stream Description**

This waste stream was generated at Argonne National Laboratory-West at the INEL. These wastes consist of noncombustible materials including Pu-Be neutron sources (small fuel samples, small sections of moderator, a pu standard, and pu foil), tools, hot cell operating equipment, various containers, and ferrous and nonferrous metals. Some combustible materials may include paper, plastic and PVC containers, rags, Q-tips, string mop heads, and an electrical plug strip and cord.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15 gallon drums, and then placed in 55-gallon drums. Some individual items may be unbagged.

#### **Management Comments**

Waste Stream ID: IN-W358.948 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W358 Stream Name PU NEUTRON SOURCE: Local ID ID-INL-152TN Handling CH Final Wa | S:CH-Unce |       | Non-Metal | Waste Matrix Code S5420      | Activity Co                   |            | ory Date 4/30/1995 ecayed to CY 2002 |
|---|-----------|-------|-----------|------------------------------|-------------------------------|------------|--------------------------------------|
| Final Waste Form Descriptors  |           |       |           | Waste Material Parameters    |                               | Final Form | Radionuclides                        |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3)     | urces     |       |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)  |
| As-Generated Volumes  |           |       |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-238     | 2.10E+03                             |
| ContainerType   | Stored    | Proj. | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239     | 1.01E+01                             |
| Drum  | 0.2       | 0.0   | 0.2       | Other Metal/Alloys           | 0.00                          | Pu-240     | 1.93E+01                             |
|   |           |       |           | Other Inorganic Materials    | 0.00                          | Th-230     | 1.36E-06                             |
| As-Generated Total  | 0.2       | 0.0   | 0.2       | Cellulosics                  | 0.00                          | Th-232     | 6.94E-16                             |
| Final Form Volumes  |           |       |           | Rubber                       | 0.00                          | U-234      | 4.28E-02                             |
| ContainerType   | Stored    | Proj. | Total     | Plastics                     | 0.00                          | U-235      | 6.95E-08                             |
| 55 Gallon Drum  | 0.2       | 0.0   | 0.2       | Solidified, Inorganic Matrix | 0.00                          | U-236      | 4.01E-06                             |
|   |           |       |           | Cement (Solidified)          | 0.00                          | 1          |                                      |
| Final Form Total  | 0.2       | 0.0   | 0.2       | Vitrified                    | 2500.00                       |            |                                      |
|   |           |       |           | Solidified, Organic Matrix   | 0.00                          |            |                                      |
|   |           |       |           | Soils                        | 0.00                          |            |                                      |
|   |           |       |           | Packaging Material, Steel    | 131.00                        |            |                                      |
|   |           |       |           | Packaging Material, Plastic  | 0.00                          |            |                                      |
|   |           |       |           | Packaging Material, Lead     | 0.00                          |            |                                      |
|   |           |       |           |                              |                               |            |                                      |

#### **Waste Stream Description**

This waste stream was generated at Argonne National Laboratory-West at the INEL. These wastes consist of noncombustible materials including Pu-Be neutron sources (small fuel samples, small sections of moderator, a pu standard, and pu foil), tools, hot cell operating equipment, various containers, and ferrous and nonferrous metals. Some combustible materials may include paper, plastic and PVC containers, rags, Q-tips, string mop heads, and an electrical plug strip and cord.

Packaging Material, Steel Plug

0.00

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15 gallon drums, and then placed in 55-gallon drums. Some individual items may be unbagged.

#### **Management Comments**

Waste Stream ID: IN-W358.949 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W358 Stream Name PU NEUTRON SOURCE   | S:RH-Cert-             | -repack                       |            |                                     |             | Invent          | ory Date 9/30/2002 |
|---|------------------------|-------------------------------|------------|-------------------------------------|-------------|-----------------|--------------------|
| Local ID ID-INL-152TN Handling RH Final Wa  | ste Form               | Jncategor                     | ized Metal | Waste Matrix Code S5420             | Activity Co | ncentrations De | ecayed to CY 2002  |
| Final Waste Form Descriptors  |                        |                               |            | Waste Material Parameters           |             | Final Form      | Radionuclides      |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | Material Parameter     | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |             |                 |                    |
| As-Generated Volumes  | Iron-Base Metal/Alloys | 55.60                         | Pu-238     | 4.41E+02                            |             |                 |                    |
| ContainerType   | Stored                 | Proj.                         | Total      | Aluminum-Base Metal/Alloys          | 0.46        | Pu-239          | 2.12E+00           |
| Drum  | 1.3                    | 0.0                           |            | Other Metal/Alloys                  | 0.06        | Pu-240          | 4.07E+00           |
| RH Insert   | 0.2                    | 0.0                           |            | Other Inorganic Materials           | 1.39        | Th-230          | 2.86E-07           |
|   |                        |                               |            | Cellulosics                         | 46.76       | Th-232          | 1.46E-16           |
| As-Generated Total  | 1.5                    | 0.0                           | 1.5        | Rubber                              | 4.22        | U-234           | 9.01E-03           |
| Final Form Volumes  |                        |                               |            | Plastics                            | 37.51       | U-235           | 1.46E-08           |
| ContainerType   | Stored                 | Proj.                         | Total      | Solidified, Inorganic Matrix        | 0.00        | U-236           | 8.44E-07           |
| RH Canister   | 3.6                    | 0.0                           |            | Cement (Solidified)                 | 0.00        |                 | -                  |
| RH Canister used to overpack 55 gallon drums  | 2.5                    | 0.0                           |            | Vitrified                           | 0.00        |                 |                    |
| - 11 outside about to overpassive of gastern at allie                               |                        | 0.0                           |            | Solidified, Organic Matrix          | 0.00        |                 |                    |
| Final Form Total  | 6.1                    | 0.0                           | 6.1        | Soils                               | 0.00        |                 |                    |
|   |                        |                               |            | Packaging Material, Steel           | 525.82      |                 |                    |

#### **Waste Stream Description**

This waste stream was generated at Argonne National Laboratory-West at the INEL. These wastes consist of noncombustible materials including Pu-Be neutron sources (small fuel samples, small sections of moderator, a pu standard, and pu foil), tools, hot cell operating equipment, various containers, and ferrous and nonferrous metals. Some combustible materials may include paper, plastic and PVC containers, rags, Q-tips, string mop heads, and an electrical plug strip and cord.

Packaging Material, Plastic

Packaging Material, Lead
Packaging Material, Steel Plug

27.65 464.41

0.00

The organic content is less than 14 lb/ft3. Combustibles, including packaging, may exceed 25 volume percent. The levels of dispersible fines should be within WIPP-WAC limits. No sludges or free liquids should be present. No explosive or pyrophoric materials should be in this waste.

These wastes are packaged three different ways, depending on when the packaging was done. Pu-Be sources packaged in 1975 were placed in a carbon steel pipe, which was cemented and encapsulated into the center of a 55-gallon drum. In 1978, Pu-Be sources were packaged in four 55-gallon drums. Wastes packed in 1980 were wrapped plastic, placed in paraffin lined 15 gallon drums, and then placed in 55-gallon drums. Some individual items may be unbagged.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Original data showed 3 RH canisters. Int. volume and # stored were changed to more accurately reflect the waste volume of 2.4 m3 as follows:

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

2.4 m3 / .208 m3/ drum = 11.538 drums, rounded to 12 drums. Tb 3/27/03

Waste Stream ID: IN-W361.1021

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W361 Stream Name SOOT:Direct Ship  |  |       |       |                              |                               | Invent   | ory Date 9/30/2002                  |  |
|---|--|-------|-------|------------------------------|-------------------------------|--|-------------------------------------|--|
| Local ID ID-RFO-422TN Handling CH Final Was   | Handling CH Final Waste Form Inorganic Non-Metal |       |       |                              | Activity Co                   | Activity Concentrations Decayed to CY 200      |                                     |  |
| Final Waste Form Descriptors  |  |       |       | Waste Material Parameters    |                               | Final Form                                     | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Materials Production/Recovery Effluents  Waste Volume Detail (m3) |  |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope  | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |  |       |       | Iron-Base Metal/Alloys       | 1.21                          | Am-241   | 2.92E-03                            |  |
| ContainerType   | Stored   | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237   | 1.24E-08                            |  |
| Drum  | 5.2  | 0.0   |       | Other Metal/Alloys           | 0.00                          | Pu-238   | 2.19E-01                            |  |
| L   |  |       |       | Other Inorganic Materials    | 3.94                          | Pu-239   | 6.89E+00                            |  |
| As-Generated Total  | 5.2  | 0.0   | 5.2   | Cellulosics                  | 5.84                          | Pu-240   | 1.56E+00                            |  |
| Final Form Volumes  |  |       |       | Rubber                       | 0.00                          | Pu-242   | 1.12E-04                            |  |
| ContainerType   | Stored   | Proj. | Total | Plastics                     | 0.91                          | Th-229   | 1.43E-16                            |  |
| SWB   | 1.9  | 0.0   |       | Solidified, Inorganic Matrix | 0.00                          | Th-230   | 5.06E-10                            |  |
| TDOP  | 9.6  | 0.0   |       | Cement (Solidified)          | 0.00                          | Th-232   | 1.93E-16                            |  |
| <u>                                     </u>  |  |       |       | Vitrified                    | 0.00                          | U-233  | 3.50E-13                            |  |
| Final Form Total  | 11.5   | 0.0   | 11.5  | Solidified, Organic Matrix   | 0.00                          | U-234  | 8.52E-06                            |  |
|   |  |       |       | Soils                        | 0.00                          | U-235  | 8.83E-08                            |  |
|   |  |       |       | Packaging Material, Steel    | 208.85                        | U-236  | 6.01E-07                            |  |
|   |  |       |       | Packaging Material, Plastic  | 22.22                         | U-238  | 2.20E-13                            |  |
|   |  |       |       | Packaging Material, Lead     | 0.00                          | <u>,                                      </u> |                                     |  |

#### **Waste Stream Description**

This waste, generated at the Rocky Flats Plant, consists of flyash generated from periodic cleaning of the Pu recovery incinerator off-gas system. Ash is packaged in 1- and 2-quart PE bottles and then in standard RFP fashion in drums. Drums will hold up to 50 bottles depending on Pu content. Bottles are individually assayed and fissile quantities calculated.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

0.00

### Waste Stream ID: IN-W362.1020

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID IN-W362 Stream Name ASH HEELS:Direct Ship Local ID ID-RFO-421TN Handling CH Final War |                    | Inventory Date 9/30/200 centrations Decayed to CY 2002 |         |                                     |        |            |               |
|---|--------------------|--|---------|-------------------------------------|--------|------------|---------------|
| Final Waste Form Descriptors  |                    |  |         | Waste Material Parameters           |        | Final Form | Radionuclides |
| Category: Defense TRU Waste Source: Materials Producti Waste Volume Detail (m3)             | Material Parameter | Average<br>Density<br>(kg/m3)                          | Isotope | Typical<br>Concentration<br>(Ci/m3) |        |            |               |
| As-Generated Volumes  |                    |  |         | Iron-Base Metal/Alloys              | 1.25   | Pu-238     | 7.20E-01      |
| ContainerType   | Stored             | Proj.  | Total   | Aluminum-Base Metal/Alloys          | 0.00   | Pu-239     | 2.25E+01      |
| Drum  | 21.4               | 0.0  |         | Other Metal/Alloys                  | 0.00   | Pu-240     | 5.12E+00      |
|   |                    |  |         | Other Inorganic Materials           | 4.05   | Pu-242     | 3.68E-04      |
| As-Generated Total  | 21.4               | 0.0  | 21.4    | Cellulosics                         | 6.01   | Th-230     | 1.66E-09      |
| Final Form Volumes  |                    |  |         | Rubber                              | 0.00   | Th-232     | 6.34E-16      |
| ContainerType   | Stored             | Proj.  | Total   | Plastics                            | 0.94   | U-234      | 2.80E-05      |
| SWB   | 7.6                | 0.0  |         | Solidified, Inorganic Matrix        | 0.00   | U-235      | 2.88E-07      |
| TDOP  | 38.3               | 0.0  |         | Cement (Solidified)                 | 0.00   | U-236      | 1.98E-06      |
|   |                    |  |         | Vitrified                           | 0.00   | U-238      | 7.22E-13      |
| Final Form Total  | 45.9               | 0.0  | 45.9    | Solidified, Organic Matrix          | 0.00   |            | •             |
|   |                    |  |         | Soils                               | 0.00   |            |               |
|   |                    |  |         | Packaging Material, Steel           | 208.85 |            |               |
|   |                    |  |         | Packaging Material, Plastic         | 22.22  |            |               |
|   |                    |  |         | Packaging Material, Lead            | 0.00   |            |               |

#### **Waste Stream Description**

This waste, generated at the Rocky Flats Plant, consists of ash heels generated from the recovery of Pu from incinerator ash. Ash is packaged in 0.5-and 1-gallon PE bottles and then in standard RFP fashion in drums. Drums will hold up to 25 bottles depending on Pu content. Bottles are individually assayed and fissile quantities calculated.

Packaging Material, Steel Plug

#### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: IN-W363.1019

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | ID IN-W363 Stream Name VIRGIN INCINERATOR ASH:Direct Ship |          |        |                   |                                   |             |          |                              | Invent                        | Inventory Date 9/30/2003 |                                     |
|----------|---|----------|--------|-------------------|-----------------------------------|-------------|----------|------------------------------|-------------------------------|--------------------------|-------------------------------------|
| Local ID | ID-RFO-420TN  | Handling | СН     | Final Wa          | al Waste Form Inorganic Non-Metal |             |          | Waste Matrix Code S3111      | Activity Co                   | ncentrations De          | ecayed to CY 2002                   |
| Final Wa | aste Form Descrip   | tors     |        |                   |                                   |             |          | Waste Material Parameters    |                               | Final Form               | Radionuclides                       |
|          | gory: Defense TF  |          | ource: | Materials Product | ion/Recove                        | ery Effluen | nts      | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                  | Typical<br>Concentration<br>(Ci/m3) |
| As-G     | enerated Volumes  |          |        |                   |                                   |             |          | Iron-Base Metal/Alloys       | 1.39                          | Pu-238                   | 3.24E-01                            |
|          | ainerType   |          |        |                   | Stored                            | Proj.       | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239                   | 1.02E+01                            |
| Drum     | <u> </u>  |          |        |                   | 2.3                               |             |          | Other Metal/Alloys           | 0.00                          | Pu-240                   | 2.31E+00                            |
|          |   |          |        |                   |                                   |             |          | Other Inorganic Materials    | 4.54                          | Pu-242                   | 1.66E-04                            |
|          |   |          | As-    | Generated Total   | 2.3                               | 0.0         | 2.3      | Cellulosics                  | 6.73                          | Th-230                   | 7.48E-10                            |
| Final    | Form Volumes  |          |        |                   |                                   |             |          | Rubber                       | 0.00                          | Th-232                   | 2.86E-16                            |
|          | ainerType   |          |        |                   | Stored                            | Proj.       | Total    | Plastics                     | 1.05                          | U-234                    | 1.26E-05                            |
| TDOF     |   |          |        |                   | 4.8                               |             |          | Solidified, Inorganic Matrix | 0.00                          | U-235                    | 1.31E-07                            |
|          |   |          |        |                   |                                   |             | <u> </u> | Cement (Solidified)          | 0.00                          | U-236                    | 8.89E-07                            |
|          |   |          |        | Final Form Total  | 4.8                               | 0.0         | 4.8      | Vitrified                    | 0.00                          | U-238                    | 3.26E-13                            |
|          |   |          |        |                   |                                   |             |          | Solidified, Organic Matrix   | 0.00                          |                          | -                                   |
|          |   |          |        |                   |                                   |             |          | Soils                        | 0.00                          |                          |                                     |
|          |   |          |        |                   |                                   |             |          | Packaging Material, Steel    | 208.43                        |                          |                                     |
|          |   |          |        |                   |                                   |             |          | Packaging Material, Plastic  | 23.45                         |                          |                                     |
|          |   |          |        |                   |                                   |             |          | Packaging Material, Lead     | 0.00                          |                          |                                     |

#### **Waste Stream Description**

This waste, generated at the Rocky Flats Plant, consists of ash generated in the Pu recovery incinerator. Ash is packaged in 0.5- and 1-gallon PE bottles and then in standard RFP fashion in drums. Drums will hold up to 25 bottles depending on Pu content. Bottles are individually assayed and fissile quantities calculated.

#### **Management Comments**

### Waste Stream ID: IN-W364.1011

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID IN-W364 Stream Name SAND, SLAG AND CRUC                                   | Invent     | Inventory Date 9/30/200 |           |                              |                               |                  |                                     |
|---|------------|-------------------------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID ID-RFO-392TN Handling CH Final Wa                                      | ste Form   | norganic N              | Non-Metal | Waste Matrix Code S3117      | Activity Co                   | oncentrations De | ecayed to CY 200                    |
| Final Waste Form Descriptors  |            |                         |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Producti Waste Volume Detail (m3) | ion/Recove | ery Effluen             | ts        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |                         |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-238           | 5.35E-01                            |
| ContainerType   | Stored     | Proj.                   | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239           | 1.68E+01                            |
| Drum  | 1.5        | _                       |           | Other Metal/Alloys           | 0.00                          | Pu-240           | 3.80E+00                            |
|   |            |                         |           | Other Inorganic Materials    | 146.00                        | Pu-242           | 2.73E-04                            |
| As-Generated Total  | 1.5        | 0.0                     | 1.5       | Cellulosics                  | 0.00                          | Th-230           | 1.24E-09                            |
| Final Form Volumes  |            |                         |           | Rubber                       | 0.00                          | Th-232           | 4.71E-16                            |
| ContainerType   | Stored     | Proj.                   | Total     | Plastics                     | 0.00                          | U-234            | 2.08E-05                            |
| TDOP  | 4.8        | 0.0                     |           | Solidified, Inorganic Matrix | 0.00                          | U-235            | 2.15E-07                            |
|   |            |                         |           | Cement (Solidified)          | 0.00                          | U-236            | 1.47E-06                            |
| Final Form Total  | 4.8        | 0.0                     | 4.8       | Vitrified                    | 0.00                          | U-238            | 5.35E-13                            |
|   |            |                         |           | Solidified, Organic Matrix   | 0.00                          |                  | •                                   |
|   |            |                         |           | Soils                        | 0.00                          |                  |                                     |
|   |            |                         |           | Packaging Material, Steel    | 208.43                        |                  |                                     |

#### **Waste Stream Description**

Specific information is not available for this content code. The waste stream is thought to be similar to content code 391, crucibles and sand. The operation which generated the waste is unknown. The waste packaging and handling procedures are unknown, although the waste form is thought to similar to content code 391.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

23.67

0.00

### **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | IN-W365          | Stream Name CRUCIBLES AND SAND:Direct Ship Inventory |         |   |  |                           |             |                  |                 |  |
|----------|------------------|--|---------|---|--|---------------------------|-------------|------------------|-----------------|--|
| Local ID | ID-RFO-391TN     | Handli   | ng CH   | Final Waste Form Inorganic Non-Metal    |  | Waste Matrix Code S3117   | Activity Co | ncentrations Dec | ayed to CY 2002 |  |
|          | ste Form Descrip |  |         |   |  | Waste Material Parameters |             | Final Form R     | adionuclides    |  |
| Categ    | ory: Defense TR  | RU Waste   | Source: | Materials Production/Recovery Effluents |  |                           | Average     |                  | Typical         |  |

### Waste Volume Detail (m3) As Congreted Volumes

| As-Generated volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum                 |                    | 4.8    | 0.0   | 4.8   |
|                      | As-Generated Total | 4.8    | 0.0   | 4.8   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

| First Fam |     | 0.0 | 11 E |
|-----------|-----|-----|------|
| TDOP      | 9.6 | 0.0 | 9.6  |
| SWB       | 1.9 | 0.0 | 1.9  |

Final Form Total 11.5

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 175.57                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 208.85                        |
| Packaging Material, Plastic    | 22.41                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|         | Typical                  |
|---------|--------------------------|
| Isotope | Concentration<br>(Ci/m3) |
| Am-241  | 2.72E+01                 |
| Np-237  | 1.16E-04                 |
| Pu-238  | 1.77E-01                 |
| Pu-239  | 5.54E+00                 |
| Pu-240  | 1.26E+00                 |
| Pu-242  | 9.04E-05                 |
| Th-229  | 1.33E-12                 |
| Th-230  | 4.09E-10                 |
| Th-232  | 1.56E-16                 |
| U-233   | 3.27E-09                 |
| U-234   | 6.87E-06                 |
| U-235   | 7.10E-08                 |
| U-236   | 4.85E-07                 |
| U-238   | 1.77E-13                 |

#### **Waste Stream Description**

This waste consists of broken magnesium oxide crucibles and limited amounts of magnesium oxide sand, used in a molten salt cleanup project when reducing plutonium tetrafluoride to plutonium metal. Above-discard levels of plutonium were recovered from these crucibles by nitric acid leaching.

The waste stream handling and packaging is as follows: the crucibles were placed into 1-gallon PE bottles. Each bottle was double-bagged out the glovebox in PVC and PE bags. Each bottle was assayed and the placed in prepared 55 gallon drums, about 12-16 bottles per drum. Some of the drums were lead-lined. Prior to 1972, the drums were lined with one or two PE bags, which were sealed with tape. Some of the drums may have cardboard liners inside of the inner liner. After 1972, 90-mil sealed rigid liners were used in addition to one or two PE bags.

Since 1972, drums were inspected (and corrected where needed) for free liquids, proper packaging, and proper content code. One to two quarts of Oil-dri was placed on the outer sealed PE drum bag. Starting in February 1982, 3-12 lb of vermiculite was used to fill the space between the outer drum bag and the rigid liner.

#### **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W366 Stream Name LECO CRUCIBLES:Direct Local ID ID-RFO-370TN Handling CH Final Wa | t Ship<br>ste Form | Inorganic N | Non-Metal | Waste Matrix Code S3117    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|--------------------|-------------|-----------|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |                    |             |           | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Analytical Laborat Waste Volume Detail (m3)            | ory Waste          |             |           | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |                    |             |           | Iron-Base Metal/Alloys     | 0.00                          | Am-241     | 6.86E-02                                |
| ContainerType  | Stored             | Proi.       | Total     | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 2.92E-07                                |
| Drum   | 7.5                | 0.0         | 7.5       | Other Metal/Alloys         | 0.00                          | Pu-238     | 1.07E-01                                |
| <u> </u>   |                    |             |           | Other Inorganic Materials  | 194.07                        | Pu-239     | 3.33E+00                                |
| As-Generated Total   | 7.5                | 0.0         | 7.5       | Cellulosics                | 0.00                          | Pu-240     | 7.54E-01                                |
| Final Form Volumes   |                    |             |           | Rubber                     | 0.00                          | Pu-242     | 5.44E-05                                |
| ContainerType  | Stored             | Proj.       | Total     | Plastics                   | 0.00                          | Th-229     | 3.35E-15                                |

1.9

14.4

16.3

Solidified, Inorganic Matrix

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead Packaging Material, Steel Plug

Packaging Material, Plastic

Cement (Solidified)

Vitrified

Soils

0.00

0.00

0.00

0.00

0.00

208.73

22.78 0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

2.46E-10

9.34E-17

8.23E-12

4.14E-06

4.27E-08

2.91E-07

1.07E-13

Final Form Total

1.9

14.4

16.3

0.0

0.0

0.0

#### **Waste Stream Description**

SWB

TDOP

This waste stream includes blank LECO crucibles and caps used for sample analysis. The crucibles are 1 inch high by 1 inch diameter, made of fired silica based ceramic. The crucibles were used to calibrate the LECO anlayzer, and contain fused amounts of accelerating metals (fron. tin, copper, titanium, stainless steel, etc.) used for blank calibration. The crucibles should be unbroken except for those generated prior to 1975, which were broken before packaging. Even when broken, there should be minimal respirable or dispersable fines which would not exceed the WIPP-WAC.

The waste stream handling and packaging is as follows: blank crucibles and caps were placed into 1-gallon metal paint cans, about 150-200 per can. The can lid was placed and sealed with tape. each paint can was double-bagged out the glovebox in PVC or PE-PVC bags and placed in prepared 55-gallon drums, about 20-25 cans per drum. Prior to 1972, 90-mil sealed rigid liners were used in addition to the two PE bags.

Since 1972, drums were inspected (and corrected where needed) for free liquids, proper packaging, and proper content code. One to two quarts of Oil-dri was placed on the outer sealed PE drum bag. Starting in February 1982, 3-12 lb of vermiculite was used to fill the space between the outer drum bag and the rigid liner.

#### **Management Comments**

### Waste Stream ID: IN-W372.832

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID IN-W372 Stream Name MET SAMPLES FISSILE                                    | :Direct Ship                  | )     |       |                              |                               | Invent         | ory Date N/A                        |
|--|-------------------------------|-------|-------|------------------------------|-------------------------------|----------------|-------------------------------------|
| ocal ID ID-BTO-081TN Handling CH Final Wa  | aste Form Uncategorized Metal |       |       | Waste Matrix Code S3100      | Activity Co                   | ncentrations D | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |                               |       |       | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Information  Waste Volume Detail (m3) | n Not Com                     | piled |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                               |       |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 2.41E+00                            |
| ContainerType  | Stored                        | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237         | 1.03E-05                            |
| Drum   |                               | 0.0   |       | Other Metal/Alloys           | 111.26                        | Pu-239         | 2.13E-02                            |
|  | 0.6                           |       |       | Other Inorganic Materials    | 0.00                          | Pu-240         | 5.53E-18                            |
| As-Generated Total   | 0.6                           | 0.0   | 0.6   | Cellulosics                  | 0.00                          | Pu-244         | 9.93E-15                            |
| Final Form Volumes   |                               |       |       | Rubber                       | 0.00                          | Th-229         | 1.18E-13                            |
| ContainerType  | Stored                        | Proj. | Total | Plastics                     | 0.00                          | U-233          | 2.89E-10                            |
| SWB used to overpack 55 gallon drums   | 1.9                           | 0.0   | 1.9   | Solidified, Inorganic Matrix | 0.00                          | U-235          | 2.73E-10                            |
| 1 3  |                               |       |       | Cement (Solidified)          | 0.00                          | U-236          | 6.00E-25                            |
| Final Form Total   | 1.9                           | 0.0   | 1.9   | Vitrified                    | 0.00                          |                |                                     |
|  |                               |       |       | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|  |                               |       |       | Soils                        | 0.00                          |                |                                     |
|  |                               |       |       | Packaging Material, Steel    | 211.00                        |                |                                     |
|  |                               |       |       | Packaging Material, Plastic  | 16.00                         |                |                                     |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at Bettis Atomic Power Laboratory.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | IN-W372      | Stream Name | MET SA | MPLES FISSILE:RH-Cert-repack         |                         |               | Inventory Date 9/30/2002       |
|----------|--------------|-------------|--------|--------------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | ID-BTO-081TN | Handling    | RH     | Final Waste Form Uncategorized Metal | Waste Matrix Code S3100 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Source Information Not Compiled

#### Waste Volume Detail (m3)

| As-Generated Volumes |         |       |       |  |
|----------------------|---------|-------|-------|--|
| ContainerType        | Stored  | Proj. | Total |  |
| Drum                 | 3.0     | 0.0   | 3.0   |  |
| As-Generated To      | tal 3.0 | 0.0   | 3.0   |  |

| Final Form Volumes |       |         |  |  |  |
|--------------------|-------|---------|--|--|--|
| Stored             | Proj. | Total   |  |  |  |
| 7.1                | 0.0   | 7.1     |  |  |  |
| 4.8                | 0.0   | 4.8     |  |  |  |
|                    | 7.1   | 7.1 0.0 |  |  |  |

**Final Form Total** 11.9 0.0 11.9

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 270.87                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.80                        |
| Packaging Material, Plastic    | 27.61                         |
| Packaging Material, Lead       | 464.40                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.50E-02                            |
| Cs-137  | 4.69E-02                            |
| Np-237  | 7.99E-08                            |
| Pu-238  | 2.95E-02                            |
| Pu-239  | 8.20E-04                            |
| Th-229  | 2.63E-16                            |
| Th-230  | 1.92E-11                            |
| U-233   | 1.20E-12                            |
| U-234   | 6.03E-07                            |
| U-235   | 5.66E-12                            |

#### **Waste Stream Description**

There is no descriptive or constituent information available for this waste, which was generated at Bettis Atomic Power Laboratory.

#### **Management Comments**

Total inventory figures as to number of containers and volume of waste, is considered to be fairly accurate. All waste is presently stored on indoor or earthen covered pads. Retrieval from the earthen covered pads and examination of waste by real time radiography will begin in the next 1 - 2 years.

Original data showed 6 RH Canisters. Int. volume and # stored changed to more accurately reflect the waste volume of 4.7 m3 as follows: 4.7 m3 / .208 m3 / drum = 22.596 drums, rounded to 23 drums. Tb 3/27/03.

Waste Stream ID: IN-W375.1096 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID IN-W375 Stream Name SLUDGE:Direct Ship                                      |            |              |           |                              |                               | Invento         | ory Date 9/30/2002                  |
|---|------------|--------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID ID-RFO-995TN Handling CH Final Wa  | ste Form   | Solidified I | norganics | Waste Matrix Code S3122      | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors  |            |              |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3) | or Waste T | reatment F   | Process   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |              |           | Iron-Base Metal/Alloys       | 0.00                          | Pu-238          | 3.19E-03                            |
| ContainerType   | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239          | 9.99E-02                            |
| Box / Misc.   | 25.4       | •            | 25.4      | Other Metal/Alloys           | 0.00                          | Pu-240          | 2.27E-02                            |
| Drum / 55 gallon  | 62.8       |              |           | Other Inorganic Materials    | 96.11                         | Pu-242          | 1.63E-06                            |
|   |            |              |           | Cellulosics                  | 0.00                          | Th-230          | 7.38E-12                            |
| As-Generated Total  | 88.2       | 0.0          | 88.2      | Rubber                       | 0.00                          | Th-232          | 2.81E-18                            |
| Final Form Volumes  |            |              |           | Plastics                     | 0.00                          | U-234           | 1.24E-07                            |
| ContainerType   | Stored     | Proj.        | Total     | Solidified, Inorganic Matrix | 86.53                         | U-235           | 1.28E-09                            |
| SWB   | 32.1       | 0.0          | 32.1      | Cement (Solidified)          | 57.66                         | U-236           | 8.74E-09                            |
| TDOP  | 167.6      |              | 167.6     | Vitrified                    | 0.00                          | U-238           | 3.20E-15                            |
| 1501  | 107.0      | 0.0          | 107.0     | Solidified, Organic Matrix   | 0.00                          | L               | 1                                   |
| Final Form Total  | 199.8      | 0.0          | 199.8     | Soils                        | 0.00                          |                 |                                     |

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

208.84 22.25

0.00

0.00

#### **Waste Stream Description**

This waste stream, generated at the Rocky Flats Plant, is sewage sludge from cleaning stabilization ponds. This waste also contains a limited number of drums containing sludge generated by plutonium recovery operations. The sludge may be moist or dry, and may consist of fines, chunks or pieces of dried cake. Shipment of sewer sludge to the INEL stopped in 1976.

There are high levels of fines. In addition the drums may contain free liquids. The sewage sludge should contain less than 10 nCi/g TRU elements. The portion of the waste that is suspected to be TRU is addressed by this waste stream. Organic content in the sludge is not known. No free liquids should be present. No explosive, pyrophoric, or corrosive materials should be in the waste.

Sewer sludge was placed directly into prepared 55-gallon drums until 1974. Drums were prepared according to pre and post-1972 procedures. Portland cement was added to the bottom and top of the inner bag. If the sludge was moist, portland cement was also added in layers with the sludge. Since 1974, packaging was changed to 4 x 4 x 7 ft fiberglass-reinforced polyester (FRP) coated plywood boxes due to the pressure buildup in the drums. Each box was lined with a PE bag and a cardboard liner. About 90 lb of portland cement was added to the bottom and top of each box. Fissile content of the sewage was determined by radiochemical analysis of sludge samples.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID KA-T001 Stream Name Transuranic Debris Inventory Date 9/30/2002

Local ID KA-T001 Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

KA-T001

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes   |                    |        |       |       |  |
|------------------------|--------------------|--------|-------|-------|--|
| ContainerType          |                    | Stored | Proj. | Total |  |
| RH Canister / 5-gallon |                    | 3.1    | 4.0   | 7.1   |  |
|                        | As-Generated Total | 3.1    | 4.0   | 7.1   |  |

| Final Form Volumes |        |       |       |  |
|--------------------|--------|-------|-------|--|
| ContainerType      | Stored | Proj. | Total |  |
| RH Canister        | 0.0    | 122.8 | 122.8 |  |
|                    |        |       |       |  |

Final Form Total 0.0 122.8 122.8

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 68.70                         |
| Aluminum-Base Metal/Alloys     | 0.60                          |
| Other Metal/Alloys             | 0.10                          |
| Other Inorganic Materials      | 1.70                          |
| Cellulosics                    | 56.00                         |
| Rubber                         | 5.10                          |
| Plastics                       | 45.40                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.00                        |
| Packaging Material, Plastic    | 26.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| i illai i Olilli iX |                                     |  |  |  |  |
|---------------------|-------------------------------------|--|--|--|--|
| Isotope             | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241              | 2.25E-04                            |  |  |  |  |
| Am-243              | 3.90E-07                            |  |  |  |  |
| Cm-244              | 1.12E-05                            |  |  |  |  |
| Cs-137              | 5.70E-01                            |  |  |  |  |
| Np-237              | 6.29E-06                            |  |  |  |  |
| Pu-238              | 2.09E-02                            |  |  |  |  |
| Pu-239              | 5.59E-05                            |  |  |  |  |
| Pu-240              | 1.40E-05                            |  |  |  |  |
| Pu-241              | 1.98E-03                            |  |  |  |  |
| Pu-242              | 5.34E-08                            |  |  |  |  |
| Pu-244              | 1.27E-14                            |  |  |  |  |
| Sr-90               | 5.42E-01                            |  |  |  |  |
| Th-229              | 7.09E-12                            |  |  |  |  |
| Th-230              | 1.03E-08                            |  |  |  |  |
| Th-232              | 3.05E-13                            |  |  |  |  |
| U-233               | 2.88E-09                            |  |  |  |  |
| U-234               | 3.56E-05                            |  |  |  |  |
| U-235               | 5.32E-07                            |  |  |  |  |
| U-236               | 5.05E-06                            |  |  |  |  |
| U-238               | 2.34E-09                            |  |  |  |  |
|                     |                                     |  |  |  |  |

#### **Waste Stream Description**

Organic and inorganic particulate and debris.

#### **Management Comments**

N/A

# Waste Stream ID: KA-W016 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID KA-W016 Stream Name Transuranic Debris Inventory Date 9/30/2002

Local ID KA-W016 Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes   |                    |        |       |       |
|------------------------|--------------------|--------|-------|-------|
| ContainerType          |                    | Stored | Proj. | Total |
| RH Canister / 5-gallon |                    | 0.0    | 0.7   | 0.7   |
|                        | As-Generated Total | 0.0    | 0.7   | 0.7   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| RH Canister        | 0.0    | 12.5  | 12.5  |
|                    |        |       |       |

**Final Form Total** 0.0 12.5 12.5

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 68.90                         |
| Aluminum-Base Metal/Alloys     | 0.60                          |
| Other Metal/Alloys             | 0.10                          |
| Other Inorganic Materials      | 1.70                          |
| Cellulosics                    | 56.70                         |
| Rubber                         | 5.10                          |
| Plastics                       | 45.50                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.00                        |
| Packaging Material, Plastic    | 26.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |               |  |  |  |
|--------------------------|---------------|--|--|--|
|                          | Typical       |  |  |  |
|                          | Concentration |  |  |  |
| Isotope                  | (Ci/m3)       |  |  |  |
| Am-241                   | 2.26E-04      |  |  |  |
| Am-243                   | 3.91E-07      |  |  |  |
| Cm-244                   | 1.12E-05      |  |  |  |
| Cs-137                   | 5.71E-01      |  |  |  |
| Np-237                   | 6.31E-06      |  |  |  |
| Pu-238                   | 2.10E-02      |  |  |  |
| Pu-239                   | 5.60E-05      |  |  |  |
| Pu-240                   | 1.40E-05      |  |  |  |
| Pu-241                   | 1.99E-03      |  |  |  |
| Pu-242                   | 5.35E-08      |  |  |  |
| Pu-244                   | 1.27E-14      |  |  |  |
| Sr-90                    | 5.44E-01      |  |  |  |
| Th-229                   | 7.11E-12      |  |  |  |
| Th-230                   | 1.03E-08      |  |  |  |
| Th-232                   | 3.06E-13      |  |  |  |
| U-233                    | 2.88E-09      |  |  |  |
| U-234                    | 3.57E-05      |  |  |  |
| U-235                    | 5.34E-07      |  |  |  |
| U-236                    | 5.06E-06      |  |  |  |
| U-238                    | 2.34E-09      |  |  |  |
|                          |               |  |  |  |

#### **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.

#### **Management Comments**

N/A

0.00

### Waste Stream ID: KN-B234TRU

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Building 234 TRU Waste   |        |       |       |                              |                               |                 | ory Date 9/30/2002                  |
|--|--------|-------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID B234TRU Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Conc |        |       |       |                              |                               | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |        |       |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3)                            | Waste  |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |       |       | Iron-Base Metal/Alloys       | 35.70                         | Am-241          | 3.48E-01                            |
| ContainerType  | Stored | Proj. | Total | Aluminum-Base Metal/Alloys   | 2.60                          | Pu-238          | 5.91E-02                            |
| Box / B-12   | 1.3    | _     | 1.3   | Other Metal/Alloys           | 0.00                          | Pu-239          | 7.04E-01                            |
| Box / B-25   | 17.9   | 0.0   | 17.9  | Other Inorganic Materials    | 33.60                         | Pu-240          | 2.37E-01                            |
| CNS Small HIC  | 3.1    | 0.0   | 3.1   | Cellulosics                  | 5.10                          | Pu-241          | 1.24E+00                            |
| Drum / 55 gallon   | 30.4   | 170.1 | 200.5 | Rubber                       | 0.30                          | Pu-242          | 1.83E-06                            |
| NUKEM NUHIC-55 HIC   | 2.3    | 0.0   | 2.3   | Plastics                     | 31.50                         | Th-232          | 1.30E-07                            |
|  |        |       |       | Solidified, Inorganic Matrix | 0.00                          | U-233           | 6.72E-05                            |
| As-Generated Total   | 54.9   | 170.1 | 225.0 | Cement (Solidified)          | 0.00                          | U-234           | 4.72E-06                            |
| Final Form Volumes   |        |       |       | Vitrified                    | 0.00                          | U-235           | 2.25E-07                            |
| ContainerType  | Stored | Proj. | Total | Solidified, Organic Matrix   | 0.00                          | U-238           | 1.79E-05                            |
| 55 Gallon Drum   | 54.9   | 170.1 | 225.1 | Soils                        | 68.60                         |                 |                                     |
|  |        |       |       | Packaging Material, Steel    | 131.00                        |                 |                                     |
| Final Form Total   | 54.9   | 170.1 | 225.1 | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |        |       |       | Packaging Material, Lead     | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste is non-hazardous debris and soil from Building 234. All process equipment and glove boxes were removed in the early 1990s and are not part of this waste stream. The debris consists of concrete block, metal, PPE, plywood, plexiglass, plastic, HEPA filters, piping, duct work, glass, cheese cloth, paper, rubber and small tools.

Packaging Material, Steel Plug

#### **Management Comments**

FF assumption to use 55-gallon drums affirmed by John L. Cummings @ KAPL. WMP calculated from As-Gen information reported using a % total volume weighted average.

4.57E-09

1.88E-19

1.02E-06

3.63E-05

1.60E-09

3.91E-10

8.54E-08

Waste Stream ID: LA-IT-00-01

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU  | WASIE       | SASELII    | NE INVEN     | ITORY WASTE PROFILE          |                               |            |                                     |
|--|-------------|------------|--------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID N/A Stream Name Combustible and non-co                     | mbustible d | lebris was | te from ITRI | Project                      |                               | Invent     | ory Date 9/30/2002                  |
| Local ID IT-00-01 Handling CH Final W                            | aste Form   | Combustib  | ole          | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |             |            |              | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |            |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |            |              | Iron-Base Metal/Alloys       | 257.98                        | Am-241     | 2.40E-01                            |
| ContainerType  | Stored      | Proj.      | Total        | Aluminum-Base Metal/Alloys   | 0.22                          | Cm-244     | 1.67E-01                            |
| 55 Gallon Drum   | 9.8         |            |              | Other Metal/Alloys           | 143.85                        | Np-237     | 2.14E-06                            |
|  |             |            |              | Other Inorganic Materials    | 6.80                          | Pu-238     | 4.25E-01                            |
| As-Generated Total   | 9.8         | 0.0        | 9.8          | Cellulosics                  | 35.88                         | Pu-239     | 5.99E-02                            |
| Final Form Volumes   |             |            |              | Rubber                       | 0.62                          | Pu-240     | 8.34E-04                            |
| ContainerType  | Stored      | Proj.      | Total        | Plastics                     | 2.97                          | Pu-241     | 1.01E-08                            |
| 55 Gallon Drum   | 9.8         | •          |              | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 2.58E-09                            |

9.8

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

131.00

37.00

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

Combustible and non-combustible debris generated between 1975 and 1984 by Inhalation Toxicology Research Institute (ITRI) run by Lovelace on the Kirtland Air Force Base. Laboratory waste that may contain rags, tools, biological waste. Pu-239 waste, may be mixed, with unknown RCRA codes

9.8

**Final Form Total** 

0.0

#### **Management Comments**

Former WS IDs: LAM009, LAT004, LAT005 and LAT009

### Waste Stream ID: LA-OS-00-01

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Metal debris from Off-Site  | Source R                                | ecovery ( | OSR) projec | et (non-mixed)               |                               | Invent          | ory Date 9/30/2002                  |
|---|---|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| cal ID OS-00-01 Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5100 Activity Conce |   |           |             |                              |                               | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |   |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)  |   |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |   |           |             | Iron-Base Metal/Alloys       | 190.24                        | Am-241          | 7.51E+01                            |
| ContainerType   | Stored                                  | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.18                          | Np-237          | 2.44E-05                            |
| POC   | 37.7                                    | 580.6     |             | Other Metal/Alloys           | 6.07                          | Pu-238          | 2.73E+03                            |
| . 55  | • | 000.0     |             | Other Inorganic Materials    | 0.66                          | Pu-239          | 1.77E+01                            |
| As-Generated Total  | 37.7                                    | 580.6     | 618.3       | Cellulosics                  | 0.73                          | Th-229          | 1.66E-15                            |
| Final Form Volumes  | Final Form Volumes                      |           |             |                              | 0.31                          | Th-230          | 3.50E-08                            |
| ContainerType   | Stored                                  | Proj.     | Total       | Plastics                     | 5.86                          | U-233           | 5.31E-11                            |
| POC   | 2.1                                     | 32.0      |             | Solidified, Inorganic Matrix | 0.52                          | U-234           | 7.77E-03                            |
| 1 00  | 2.1                                     | 32.0      | J-7.1       | Cement (Solidified)          | 0.00                          | U-235           | 1.75E-08                            |
| Final Form Total  | 2.1                                     | 32.0      | 34.1        | Vitrified                    | 0.00                          | <u> </u>        |                                     |

#### **Waste Stream Description**

Off-Site Source Recovery (OSR) sealed sources are radionuclide (actinide) solids (e.g., Am, Pu, AmBe, or PuBe) that are encapsulated in metal jackets. The actinides are either metal or metal oxides.

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Soils

0.18

525.22

23.87

0.00

#### **Management Comments**

Containes containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-PX-00-01

**Management Comments**Former WS ID: LAT004

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Local ID PX-00-01 Handling CH Final Waste Form Combustible Waste Matrix Code S5400 Activity Cor |       |       |       |                                |                               |            | ncentrations Decayed to CY 200      |  |  |
|---|-------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|--|--|
| Final Waste Form Descriptors  |       |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |  |  |
| Category: Unknown Source: N/A Waste Volume Detail (m3)  |       |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes  |       |       |       | Iron-Base Metal/Alloys         | 257.70                        | Am-241     | 2.59E-02                            |  |  |
|   | tored | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.40                          | Np-237     | 4.79E-08                            |  |  |
| 55 Gallon Drum  | 0.6   | 0.0   | 0.6   | Other Metal/Alloys             | 18.80                         | Pu-238     | 1.28E-02                            |  |  |
|   |       |       |       | Other Inorganic Materials      | 6.80                          | Pu-239     | 1.45E-01                            |  |  |
| As-Generated Total  | 0.6   | 0.0   | 0.6   | Cellulosics                    | 64.00                         | Pu-240     | 3.41E-02                            |  |  |
| Final Form Volumes  |       |       |       | Rubber                         | 1.10                          | Pu-241     | 2.61E-01                            |  |  |
| ContainerType   | tored | Proj. | Total | Plastics                       | 5.30                          | Th-229     | 1.12E-16                            |  |  |
| 55 Gallon Drum  | 0.6   | 0.0   | 0.6   | Solidified, Inorganic Matrix   | 0.00                          | Th-230     | 6.09E-12                            |  |  |
|   |       |       |       | Cement (Solidified)            | 0.00                          | Th-232     | 8.99E-19                            |  |  |
| Final Form Total  | 0.6   | 0.0   | 0.6   | Vitrified                      | 0.00                          | U-233      | 6.04E-13                            |  |  |
|   |       |       |       | Solidified, Organic Matrix     | 0.00                          | U-234      | 2.24E-07                            |  |  |
|   |       |       |       | Soils                          | 0.00                          | U-235      | 8.58E-10                            |  |  |
|   |       |       |       | Packaging Material, Steel      | 131.00                        | U-236      | 6.07E-09                            |  |  |
|   |       |       |       | Packaging Material, Plastic    | 37.00                         |            |                                     |  |  |
|   |       |       |       | Packaging Material, Lead       | 0.00                          |            |                                     |  |  |
|   |       |       |       | Packaging Material, Steel Plug | 0.00                          |            |                                     |  |  |

### Waste Stream ID: LA-SL-00-01

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Non-combustible debris w                   | vaste gene | rated by S | andia National I | _aboratories (mixed)         |                               | Invento    | ory Date 9/30/2002                  |  |
|--|------------|------------|------------------|------------------------------|-------------------------------|------------|-------------------------------------|--|
|  |            |            |                  |                              |                               | _          | entrations Decayed to CY 2002       |  |
| Final Waste Form Descriptors                                     |            |            |                  | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |            |            |                  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |            |            |                  | Iron-Base Metal/Alloys       | 257.70                        | Np-237     | 1.24E-02                            |  |
| ContainerType  | Stored     | Proj.      | Total            | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 4.07E-01                            |  |
| 55 Gallon Drum   | 0.4        | _          |                  | Other Metal/Alloys           | 302.90                        | Pu-239     | 3.67E-01                            |  |
|  | ll         |            |                  | Other Inorganic Materials    | 6.80                          | Th-229     | 1.70E-09                            |  |
| As-Generated Total   | 0.4        | 0.0        | 0.4              | Cellulosics                  | 0.00                          | Th-230     | 4.03E-09                            |  |
| Final Form Volumes   |            |            |                  | Rubber                       | 0.00                          | U-233      | 1.40E-06                            |  |
| ContainerType  | Stored     | Proj.      | Total            | Plastics                     | 0.00                          | U-234      | 3.33E-05                            |  |
| 55 Gallon Drum   | 0.4        | 0.0        | 0.4              | Solidified, Inorganic Matrix | 0.00                          | U-235      | 9.41E-09                            |  |
|  | l          |            |                  | Cement (Solidified)          | 0.00                          |            |                                     |  |
| Final Form Total   | 0.4        | 0.0        | 0.4              | Vitrified                    | 0.00                          |            |                                     |  |
|  |            |            |                  | Solidified, Organic Matrix   | 0.00                          |            |                                     |  |
|  |            |            |                  | Soils                        | 0.00                          |            |                                     |  |
|  |            |            |                  | Packaging Material, Steel    | 131.00                        |            |                                     |  |
|  |            |            |                  | Packaging Material, Plastic  | 37.00                         |            |                                     |  |
|  |            |            |                  | Packaging Material, Lead     | 0.00                          |            |                                     |  |

Packaging Material, Steel Plug

0.00

### **Waste Stream Description**

Non-combustible debris waste generated by Sandia National Laboratories. May contain lead.

### **Management Comments**

Former WS ID: LAT005

# Waste Stream ID: LA-TA-03-12 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

# Stream Name Combustible debris waste from chemistry operations in wings 3, 5, and 7 of the CMR facility (mixed) Handling CH Final Waste Form Combustible Waste Matrix Code \$5300 Activity Concentrations Decayed to CY 2002

| טו או    | 19/75             | Stream Name Combustible debits waste | o il Olli Gilcii | ilistry oper | ations in v |
|----------|-------------------|--------------------------------------|------------------|--------------|-------------|
| ocal ID  | TA-03-12          | Handling CH Final Wa                 | ste Form         | Combustib    | le          |
| Final Wa | ste Form Descrip  | otors                                |                  |              |             |
| Categ    | ory: Defense TF   | RU Waste Source: N/A                 |                  |              |             |
| Waste Vo | olume Detail (m3) |                                      |                  |              |             |
| As-Ge    | nerated Volumes   |                                      |                  |              |             |
| Conta    | inerType          |                                      | Stored           | Proj.        | Total       |
| 55 Gal   | llon Drum         |                                      | 220.5            | 0.0          | 220.5       |
| Drum /   | / 85-gallon       |                                      | 0.6              | 0.0          | 0.6         |
| Unkno    | wn Small          |                                      | 0.0              | 0.0          | 0.0         |
|          |                   | As-Generated Total                   | 221.1            | 0.0          | 221.1       |
| Final F  | Form Volumes      |                                      |                  |              |             |
| Conta    | inerType          |                                      | Stored           | Proj.        | Total       |
| 55 Gal   | llon Drum         |                                      | 220.7            | 0.0          | 220.7       |
| 85 Gal   | llon Drum         |                                      | 0.6              | 0.0          | 0.6         |
|          |                   | Final Form Total                     | 221.3            | 0.0          | 221.3       |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.20                          |
| Aluminum-Base Metal/Alloys     | 0.30                          |
| Other Metal/Alloys             | 0.30                          |
| Other Inorganic Materials      | 6.50                          |
| Cellulosics                    | 18.80                         |
| Rubber                         | 8.80                          |
| Plastics                       | 33.70                         |
| Solidified, Inorganic Matrix   | 0.20                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.40                          |
| Soils                          | 0.20                          |
| Packaging Material, Steel      | 130.89                        |
| Packaging Material, Plastic    | 36.97                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Final Form Radionucildes |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 8.64E-04                            |  |  |  |  |
| Am-243                   | 3.79E-08                            |  |  |  |  |
| Cs-137                   | 3.74E-11                            |  |  |  |  |
| Np-237                   | 5.04E-08                            |  |  |  |  |
| Pu-238                   | 1.77E-02                            |  |  |  |  |
| Pu-239                   | 1.97E-03                            |  |  |  |  |
| Pu-240                   | 6.89E-04                            |  |  |  |  |
| Pu-241                   | 4.37E-03                            |  |  |  |  |
| Pu-242                   | 1.72E-07                            |  |  |  |  |
| Pu-244                   | 9.44E-15                            |  |  |  |  |
| Th-229                   | 8.34E-15                            |  |  |  |  |
| Th-230                   | 2.45E-10                            |  |  |  |  |
| Th-232                   | 6.28E-19                            |  |  |  |  |
| U-233                    | 6.08E-12                            |  |  |  |  |
| U-234                    | 1.73E-06                            |  |  |  |  |
| U-235                    | 1.46E-09                            |  |  |  |  |
| U-236                    | 7.31E-10                            |  |  |  |  |
| U-238                    | 2.78E-11                            |  |  |  |  |

#### **Waste Stream Description**

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

#### **Management Comments**

Former WS IDs: LAM001, LAM004, LAT005, LAT009, also containers not previously associated with an identified BIR WS.

Waste Stream ID: LA-TA-03-13

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | IAOILL      | AOLLII | AL HAVEN | TORT WASTET ROTTEE  |                               |         |                                     |
|---|-------------|--------|----------|---|-------------------------------|---------|-------------------------------------|
| HQ ID N/A Stream Name Combustible debris waste Local ID TA-03-13 Handling CH Final Wa | e from cher |        |          | ngs 3, 5, and 7 of the CMR facility (non-m<br>Waste Matrix Code S5300 |                               |         | ory Date 9/30/2002                  |
| Final Waste Form Descriptors  | <b>L</b>    |        |          | Waste Material Parameters   | •                             |         | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)                      |             |        |          | Material Parameter  | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |        |          | Iron-Base Metal/Alloys  | 257.70                        | Am-241  | 5.31E-03                            |
| ContainerType   | Stored      | Proi.  | Total    | Aluminum-Base Metal/Alloys  | 0.33                          | Am-243  | 2.35E-06                            |
| Drum / 55 gallon  | 46.4        | 0.0    |          | Other Metal/Alloys  | 69.58                         | Np-237  | 2.38E-07                            |
|   |             |        |          | Other Inorganic Materials   | 6.80                          | Pu-238  | 2.66E-01                            |
| As-Generated Total  | 46.4        | 0.0    | 46.4     | Cellulosics   | 52.56                         | Pu-239  | 1.47E-02                            |
| Final Form Volumes  |             |        |          | Rubber  | 0.90                          | Pu-240  | 3.45E-03                            |
| ContainerType   | Stored      | Proj.  | Total    | Plastics  | 4.35                          | Pu-241  | 2.76E-02                            |

46.4

46.4

### 0.00 Solidified, Inorganic Matrix Cement (Solidified) 0.00 Vitrified 0.00 Solidified, Organic Matrix 0.00 Soils 0.00 Packaging Material, Steel 131.00 0.00 Packaging Material, Plastic 0.00 Packaging Material, Lead Packaging Material, Steel Plug 0.00

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 5.31E-03                            |  |  |  |  |
| Am-243                   | 2.35E-06                            |  |  |  |  |
| Np-237                   | 2.38E-07                            |  |  |  |  |
| Pu-238                   | 2.66E-01                            |  |  |  |  |
| Pu-239                   | 1.47E-02                            |  |  |  |  |
| Pu-240                   | 3.45E-03                            |  |  |  |  |
| Pu-241                   | 2.76E-02                            |  |  |  |  |
| Pu-242                   | 5.61E-06                            |  |  |  |  |
| Pu-244                   | 5.16E-12                            |  |  |  |  |
| Th-229                   | 8.85E-15                            |  |  |  |  |
| Th-230                   | 7.56E-10                            |  |  |  |  |
| Th-232                   | 1.37E-18                            |  |  |  |  |
| U-233                    | 1.37E-11                            |  |  |  |  |
| U-234                    | 1.15E-05                            |  |  |  |  |
| U-235                    | 1.08E-08                            |  |  |  |  |
| U-236                    | 2.69E-09                            |  |  |  |  |
| U-238                    | 1.69E-09                            |  |  |  |  |

#### **Waste Stream Description**

55 Gallon Drum

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulosebased waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides. Major: R. C. PW, Minor: IM, OM, AM, OI, OR, IN. No soil (S) present in this waste stream.

#### **Management Comments**

Former WS IDs: LAM004, LAM005, LAM009, LAT004, LAT009, also containers not previously associated with an identified BIR WS

46.4

46.4

**Final Form Total** 

0.0

0.0

#### Waste Stream ID: LA-TA-03-19

### Appendix J TOU WASTE BASELINE INVENTORY WASTE DOCEILE

| 11/0 /   | VASILL       | AJLLII     | AL HAVEIAIC      | JRT WASTE FROTTEE                     |                               |                 |                                     |
|--|--------------|------------|------------------|---------------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name Non-combustible and con                    | nbustible de | ebris wast | te from operatio | ns in wings 3, 5, and 7 of the CMR fa | cility (mixed)                | Invent          | tory Date 9/30/200                  |
| Local ID TA-03-19 Handling CH Final Wa                           | ste Form     | Heterogen  | eous Debris      | Waste Matrix Code S5400               | Activity Co                   | oncentrations D | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |              |            |                  | Waste Material Parameters             |                               | Final Form      | n Radionuclides                     |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |              |            |                  | Material Parameter                    | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |              |            |                  | Iron-Base Metal/Alloys                | 20.10                         | Am-241          | 2.88E-03                            |
| ContainerType  | Stored       | Proj.      | Total            | Aluminum-Base Metal/Alloys            | 2.70                          | Am-243          | 2.25E-06                            |
| 55 Gallon Drum   | 141.0        | 0.0        |                  | Other Metal/Alloys                    | 2.20                          | Np-237          | 2.07E-07                            |
| Drum / 30-gallon / Pit   | 4.2          | 0.0        |                  | Other Inorganic Materials             | 100.50                        | Pu-238          | 1.03E-01                            |
| Drum / 85-gallon   | 2.6          | 0.0        |                  | Cellulosics                           | 2.20                          | Pu-239          | 7.40E-03                            |
| Standard Waste Box   | 28.4         | 0.0        |                  | Rubber                                | 1.10                          | Pu-240          | 2.14E-03                            |
| Unknown Small  | 0.1          | 0.0        |                  | Plastics                              | 4.50                          | Pu-241          | 1.10E-02                            |
|  |              |            |                  | Solidified, Inorganic Matrix          | 0.20                          | Pu-242          | 1.26E-06                            |
| As-Generated Total   | 176.2        | 0.0        | 176.2            | Cement (Solidified)                   | 0.00                          | Pu-244          | 7.36E-13                            |
| Final Form Volumes   |              |            |                  | Vitrified                             | 0.00                          | Th-229          | 3.48E-14                            |
|  |              |            |                  |                                       | _                             | <b>———</b>      |                                     |

| Final Form Volumes                |                  |        |       |       |  |  |  |  |
|-----------------------------------|------------------|--------|-------|-------|--|--|--|--|
| ContainerType                     |                  | Stored | Proj. | Total |  |  |  |  |
| 55 Gallon Drum                    |                  | 141.2  | 0.0   | 141.2 |  |  |  |  |
| 55 Gallon Drum/Overpack 30 Gallon |                  | 7.7    | 0.0   | 7.7   |  |  |  |  |
| 85 Gallon Drum                    |                  | 2.6    | 0.0   | 2.6   |  |  |  |  |
| Standard Waste Box                |                  | 28.4   | 0.0   | 28.4  |  |  |  |  |
|                                   | Final Form Total | 179.9  | 0.0   | 179.9 |  |  |  |  |

| itrified                      | 0.00   | Th-229 |  |
|-------------------------------|--------|--------|--|
| olidified, Organic Matrix     | 1.10   | Th-230 |  |
| oils                          | 0.20   | Th-232 |  |
| ackaging Material, Steel      | 137.32 | U-233  |  |
| ackaging Material, Plastic    | 31.21  | U-234  |  |
| ackaging Material, Lead       | 0.00   | U-235  |  |
| ackaging Material, Steel Plug | 0.00   | U-236  |  |
|                               |        | U-238  |  |
|                               |        |        |  |

| Final Form Radionucides |                                     |  |  |  |  |  |
|-------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                 | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                  | 2.88E-03                            |  |  |  |  |  |
| Am-243                  | 2.25E-06                            |  |  |  |  |  |
| Np-237                  | 2.07E-07                            |  |  |  |  |  |
| Pu-238                  | 1.03E-01                            |  |  |  |  |  |
| Pu-239                  | 7.40E-03                            |  |  |  |  |  |
| Pu-240                  | 2.14E-03                            |  |  |  |  |  |
| Pu-241                  | 1.10E-02                            |  |  |  |  |  |
| Pu-242                  | 1.26E-06                            |  |  |  |  |  |
| Pu-244                  | 7.36E-13                            |  |  |  |  |  |
| Th-229                  | 3.48E-14                            |  |  |  |  |  |
| Th-230                  | 1.41E-09                            |  |  |  |  |  |
| Th-232                  | 1.98E-18                            |  |  |  |  |  |
| U-233                   | 2.53E-11                            |  |  |  |  |  |
| U-234                   | 9.94E-06                            |  |  |  |  |  |
| U-235                   | 1.08E-08                            |  |  |  |  |  |
| U-236                   | 2.29E-09                            |  |  |  |  |  |
| U-238                   | 1.57E-08                            |  |  |  |  |  |

#### **Waste Stream Description**

Non-combustible and combustible waste generated from facility and equipment operations and maintenance. This waste includes, but may not be limited to, small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, HEPA filters, pipes, glass, graphite, slag and crucibles, salt, discarded lab ware, windows, and bottles. The waste stream may also contain a smaller fraction of combustible solids (e.g., paper, rags, plastic, rubber, leaded gloves) and a small fraction of homogeneous solids (e.g., leached solids, ash, hydroxide cakes, impure oxides).

#### **Management Comments**

Former WS IDs: LAM001, LAM004, LAM005, LAM009, LAT004, LAT005, and LAT009; also contains containers not previously associated with an identified BIR WS

### Waste Stream ID: LA-TA-03-20

## Appendix J TRII WASTE BASELINE INVENTORY WASTE PROFILE

|                   |                   |                         |        | THO WASTE BASELINE  | INVENTO         | N WASTET ROTTEE   |                    |   |              |                                      |
|-------------------|-------------------|-------------------------|--------|---|-----------------|---|--------------------|---|--------------|--------------------------------------|
| HQ ID<br>Local ID | N/A<br>TA-03-20   | Stream Name<br>Handling |        | ustible debris waste from chemistry and me Final Waste Form Combustible | tallurgical ope | rations in wings 2 and 4 of the CM  Waste Matrix Code S5300 | , ,                |   |              | ry Date 9/30/2002<br>ayed to CY 2002 |
| Final Wa          | ste Form Descrip  |                         | ource: | N/A   |                 | Waste Material Parameters                                   | Average            | ſ | Final Form R | adionuclides Typical                 |
| _                 | olume Detail (m3) |                         | Juice. | I WIT   |                 | Material Parameter  | Density<br>(kg/m3) |   | Isotope      | Concentration<br>(Ci/m3)             |
| As-Go             | nerated Volumes   | •                       |        |   |                 | Iron-Base Metal/Alloys                                      | 3.31               |   | Am-241       | 8.78E-03                             |

Total

29.7

0.3

30.1

30.1

Stored

29.7

0.3

30.1

Proj.

0.0

0.0

0.0

0.0

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 29.7   | 0.0   | 29.7  |
| Drum / 85-gallon   | 0.3    | 0.0   | 0.3   |

As-Generated Total

**Final Form Total** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.31                          |
| Aluminum-Base Metal/Alloys     | 0.64                          |
| Other Metal/Alloys             | 0.57                          |
| Other Inorganic Materials      | 1.77                          |
| Cellulosics                    | 19.70                         |
| Rubber                         | 9.41                          |
| Plastics                       | 32.47                         |
| Solidified, Inorganic Matrix   | 0.46                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 2.06                          |
| Soils                          | 0.37                          |
| Packaging Material, Steel      | 130.58                        |
| Packaging Material, Plastic    | 36.89                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.78E-03                            |
| Np-237  | 2.93E-06                            |
| Pu-238  | 2.92E-01                            |
| Pu-239  | 1.95E-02                            |
| Pu-240  | 6.90E-03                            |
| Pu-241  | 5.38E-02                            |
| Pu-242  | 1.52E-06                            |
| Th-229  | 3.67E-13                            |
| Th-230  | 2.66E-09                            |
| Th-232  | 3.16E-18                            |
| U-233   | 3.15E-10                            |
| U-234   | 2.29E-05                            |
| U-235   | 4.81E-10                            |
| U-236   | 5.12E-09                            |
| U-238   | 5.73E-15                            |

#### **Waste Stream Description**

ContainerType

55 Gallon Drum

Drum / 85-gallon

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

#### **Management Comments**

Former WS IDs: LAM004, LAT004, LAT005, LAT009

### Waste Stream ID: LA-TA-03-24

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| ocal ID TA-03-24 Handling CH Final Wa                             | ste Form | Heterogen | eous Debris | Waste Matrix Code S5400        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|---|----------|-----------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                                      |          |           |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A  Waste Volume Detail (m3) |          |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           | 1           | Iron-Base Metal/Alloys         | 40.10                         | Am-241          | 1.24E-02                            |
| ContainerType   | Stored   | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 4.00                          | Am-243          | 1.72E-08                            |
| 55 Gallon Drum  | 19.3     | 0.0       |             | Other Metal/Alloys             | 3.20                          | Np-237          | 1.83E-06                            |
| Drum / 30-gallon / Pit  | 1.0      | 0.0       | 1.0         | Other Inorganic Materials      | 13.40                         | Pu-238          | 1.14E+00                            |
| Drum / 85-gallon  | 1.0      | 0.0       | 1.0         | Cellulosics                    | 5.50                          | Pu-239          | 3.65E-02                            |
| Standard Waste Box  | 7.6      | 0.0       | 7.6         | Rubber                         | 2.80                          | Pu-240          | 1.11E-02                            |
| Unknown Small   | 0.0      | 0.0       | 0.0         | Plastics                       | 8.90                          | Pu-241          | 5.62E-02                            |
|   |          |           |             | Solidified, Inorganic Matrix   | 0.20                          | Pu-242          | 1.91E-06                            |
| As-Generated Total  | 28.9     | 0.0       | 28.9        | Cement (Solidified)            | 0.00                          | Th-229          | 3.44E-13                            |
| Final Form Volumes  |          |           |             | Vitrified                      | 0.00                          | Th-230          | 1.65E-08                            |
| ContainerType   | Stored   | Proj.     | Total       | Solidified, Organic Matrix     | 0.20                          | Th-232          | 7.80E-18                            |
| 55 Gallon Drum  | 19.6     | 0.0       | 19.6        | Soils                          | 0.20                          | U-233           | 2.39E-10                            |
| 55 Gallon Drum/Overpack 30 Gallon                                 | 1.9      | 0.0       | 1.9         | Packaging Material, Steel      | 140.30                        | U-234           | 1.14E-04                            |
| 85 Gallon Drum  | 1.0      | 0.0       | 1.0         | Packaging Material, Plastic    | 27.64                         | U-235           | 9.65E-08                            |
| Standard Waste Box  | 7.6      | 0.0       | 7.6         | Packaging Material, Lead       | 0.00                          | U-236           | 1.02E-08                            |
|   | 20 0     | 0.0       |             | Packaging Material, Steel Plug | 0.00                          | U-238           | 8.32E-08                            |

#### **Waste Stream Description**

Non-combustible waste generated from facility and equipment operations and maintenance. This waste includes, but may not be limited to, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, HEPA filters, pipes, glass, graphite, slag and crucibles, salt, discarded lab ware, windows, and bottles. The waste stream may also contain a smaller fraction of combustible solids (e.g., paper, rags, plastic, rubber, leaded gloves) and a small fraction of homogeneous solids (e.g., leached solids, ash, hydroxide cakes, impure oxides).

#### **Management Comments**

Former WS IDs: LAM001, LAM005, LAT004, LAT005, LAT009; also contains containers not previously associated with an identified BIR WS

# Waste Stream ID: LA-TA-03-26 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A   |             |       |                  |                      | n wing 9 of the CMR facility (r | ,                | Inventory Date 9/30/2002         |
|----------|---|-------------|-------|------------------|----------------------|---------------------------------|------------------|----------------------------------|
| Local ID | TA-03-26  | Handling    | CH    | Final Waste Form | Heterogeneous Debris | Waste Matrix Code               | S5400 Activity C | oncentrations Decayed to CY 2002 |
| Final Wa | Final Waste Form Descriptors  Waste Material Parameters  Final Form Radionuclides |             |       |                  |                      |                                 |                  | Final Form Radionuclides         |
| Cateo    | orv: Defense TF   | RU Waste So | urce: | N/A              |                      |                                 | Average          | Typical                          |

#### Waste Volume Detail (m3)

| ContainerType      |        |       | Total |
|--------------------|--------|-------|-------|
| EE O-llan Donne    | Stored | Proj. |       |
| 55 Gallon Drum     | 7.5    | 0.0   | 7.5   |
| Standard Waste Box | 15.1   | 0.0   | 15.1  |
| Unknown Small      | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 9.2    | 0.0   | 9.2   |
| Standard Waste Box |                  | 15.1   | 0.0   | 15.1  |
|                    | Final Form Total | 24.3   | 0.0   | 24.3  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 20.70                         |
| Aluminum-Base Metal/Alloys     | 4.20                          |
| Other Metal/Alloys             | 3.50                          |
| Other Inorganic Materials      | 6.40                          |
| Cellulosics                    | 7.20                          |
| Rubber                         | 3.60                          |
| Plastics                       | 11.10                         |
| Solidified, Inorganic Matrix   | 0.20                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.20                          |
| Soils                          | 0.20                          |
| Packaging Material, Steel      | 145.33                        |
| Packaging Material, Plastic    | 14.70                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 6.95E-04                            |  |  |  |
| Np-237                   | 4.46E-09                            |  |  |  |
| Pu-238                   | 5.79E-02                            |  |  |  |
| Pu-239                   | 1.09E-01                            |  |  |  |
| Pu-240                   | 1.78E-03                            |  |  |  |
| Pu-241                   | 6.07E-03                            |  |  |  |
| Pu-242                   | 1.05E-07                            |  |  |  |
| Th-229                   | 1.79E-16                            |  |  |  |
| Th-230                   | 1.08E-08                            |  |  |  |
| Th-232                   | 2.32E-16                            |  |  |  |
| U-233                    | 2.27E-13                            |  |  |  |
| U-234                    | 4.16E-05                            |  |  |  |
| U-235                    | 9.41E-06                            |  |  |  |
| U-236                    | 1.53E-07                            |  |  |  |
| U-238                    | 1.04E-08                            |  |  |  |

#### **Waste Stream Description**

Contact-handled hot cell waste, including both combustible and noncombustible waste forms, generated from facility and equipment operations and maintenance.

#### **Management Comments**

Former WS IDs: LAT004, LAT007, LAT009; also contains containers not previously associated with an identified BIR WS.

#### Appendix J Waste Stream ID: LA-TA-03-27 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A                | Stream Nam | e Combir | ned combustible and noncombustible debris waste | e (RH-TR | U) from wing 9 of the CMR facility (r | nixed)             | Inventor     | ry Date 9/30/2002        |
|----------|--------------------|------------|----------|---|----------|---------------------------------------|--------------------|--------------|--------------------------|
| Local ID | TA-03-27           | Handlin    |          | Final Waste Form Heterogeneous Debri            |          | Waste Matrix Code S5400               | ,                  |              | ayed to CY 2002          |
| Final Wa | ste Form Descrip   | otors      |          |   | ,        | Waste Material Parameters             |                    | Final Form R | Radionuclides            |
| Categ    | gory: Defense TF   | RU Waste   | Source:  | N/A   |          |                                       | Average<br>Density |              | Typical<br>Concentration |
| Wasta V. | aluma Datail (m.2) |            |          |   |          | Material Parameter                    | (kg/m3)            | Isotone      | (Ci/m3)                  |

#### Waste Volume Detail (m3)

| As-Generated Volumes    |                    |        |       |       |  |
|-------------------------|--------------------|--------|-------|-------|--|
| ContainerType           |                    | Stored | Proj. | Total |  |
| Remote Handled          |                    | 72.5   | 0.0   | 72.5  |  |
| Remote Handled/1-gallon |                    | 0.2    | 0.0   | 0.2   |  |
| Remote Handled/2-gallon |                    | 0.0    | 0.0   | 0.0   |  |
|                         | As-Generated Total | 72.8   | 0.0   | 72.8  |  |

| Stored | Proj. | Total |
|--------|-------|-------|
| 124.6  | 0.0   | 124.6 |
|        |       |       |

Final Form Total

| As-Generated Total | 72.8 | 0.0 | 72.8 |
|--------------------|------|-----|------|

124.6

| Average<br>Density<br>(kg/m3) |
|-------------------------------|
| 260.60                        |
| 0.00                          |
| 249.93                        |
| 5.48                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 434.00                        |
| 0.00                          |
| 464.00                        |
| 0.00                          |
|                               |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 2.00E-04                            |  |  |  |
| Cs-137                   | 1.26E-01                            |  |  |  |
| Np-237                   | 1.26E-09                            |  |  |  |
| Pu-238                   | 1.07E-04                            |  |  |  |
| Pu-239                   | 2.03E-02                            |  |  |  |
| Pu-240                   | 2.20E-04                            |  |  |  |
| Pu-241                   | 1.79E-03                            |  |  |  |
| Pu-242                   | 1.32E-07                            |  |  |  |
| Th-229                   | 4.92E-17                            |  |  |  |
| Th-230                   | 4.39E-11                            |  |  |  |
| Th-232                   | 1.23E-18                            |  |  |  |
| U-233                    | 6.33E-14                            |  |  |  |
| U-234                    | 1.63E-07                            |  |  |  |
| U-235                    | 8.05E-07                            |  |  |  |
| U-236                    | 9.03E-10                            |  |  |  |
| U-238                    | 3.53E-09                            |  |  |  |

#### **Waste Stream Description**

Combustible and non-combustible remote handled waste (RH-TRU). This waste stream contains both combustible and non-combustible waste that is classified as "remotely handled". Combustible waste is generated from facility and equipment operations and maintenance. Combustible waste includes paper, rags, plastic, rubber, and plastic-based and cellulose-based waste generated at the facility. Plastic based waste includes, but may not be limited to, tape, polyethylene, and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; plexiglass; and dry box gloves (unleaded Neoprene base). Cellulose-based waste includes, but may not be limited to rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. Noncombustible scrap waste is also generated from facility and equipment operations and maintenance. Noncombustible waste includes items such as small tools, cans, small equipment items, and broken glass. This waste consists of glass waste including, but not limited to, discarded labware, windows, and bottles; metal waste including motors, pumps, tools, and process equipment: leaded rubber, and metal waste including lead-lined glovebox gloves discarded along with metal waste, such as motors and tools.

124.6

#### **Management Comments**

Former WS IDs: LAMR01, LAMR05, LATR04, LATR05, and LATR07.

### Waste Stream ID: LA-TA-03-28

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cement paste from CMR                       |          |              | norganiaa | Waste Marks Oath C2100                             | A-th-th- O-                   |         | ory Date 9/30/2002                  |
|---|----------|--------------|-----------|--|-------------------------------|---------|-------------------------------------|
| Local ID TA-03-28 Handling CH Final Wa                            | ste Form | Solidilled I | norganics | Waste Matrix Code S3100  Waste Material Parameters | Activity Co                   |         | ecayed to CY 2002                   |
| Category: Defense TRU Waste Source: N/A  Waste Volume Detail (m3) |          |              |           | Material Parameter                                 | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |              |           | Iron-Base Metal/Alloys                             | 0.18                          | Pu-238  | 8.36E-02                            |
| ContainerType   | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys                         | 0.18                          | Pu-239  | 4.23E-02                            |
| 55 Gallon Drum  | 5.2      | 0.0          |           | Other Metal/Alloys                                 | 0.18                          | Th-230  | 1.05E-09                            |
| Drum / 85-gallon  | 0.6      |              |           | Other Inorganic Materials                          | 0.18                          | U-234   | 7.73E-06                            |
|   |          |              |           | Cellulosics  | 0.18                          | U-235   | 1.21E-09                            |
| As-Generated Total  | 5.8      | 0.0          | 5.8       | Rubber   | 0.18                          |         |                                     |
| Final Form Volumes  |          |              |           | Plastics   | 0.18                          |         |                                     |
| ContainerType   | Stored   | Proj.        | Total     | Solidified, Inorganic Matrix                       | 165.82                        |         |                                     |
| 55 Gallon Drum  | 5.2      | 0.0          | 5.2       | Cement (Solidified)                                | 0.00                          |         |                                     |
| Drum / 85-gallon  | 0.6      | 0.0          |           | Vitrified  | 0.00                          |         |                                     |
|   |          |              |           | Solidified, Organic Matrix                         | 828.39                        |         |                                     |
| Final Form Total  | 5.8      | 0.0          | 5.8       | Soils  | 110.61                        |         |                                     |
|   |          |              |           | Packaging Material, Steel                          | 126.70                        |         |                                     |
|   |          |              |           | Packaging Material, Plastic                        | 35.90                         |         |                                     |
|   |          |              |           | Packaging Material, Lead                           | 0.00                          |         |                                     |
|   |          |              |           | Packaging Material, Steel Plug                     | 0.00                          |         |                                     |

#### **Waste Stream Description**

Solidified aqueous waste and cemented sludge generated from facility and equipment operations and maintenance. The sludge is a residue from numerous treatment and filtration operations involving aqueous liquid radioactive waste. This treatment produces a thin sludge (approximately 25 percent solids) that is alkaline and is compatible with Portland cement. Final cemented waste monoliths are produced by mixing the waste in 55-gallon steel drums containing empirically determined quantities of sludge, Portland cement, vermiculite, and sodium silicate.

#### **Management Comments**

Former WS IDs: LAM002 and LAM009.

# Waste Stream ID: LA-TA-03-30 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Absorbed Organics on vermiculite (mixed)

Local ID TA-03-30 Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3200 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| 30 Gallon Drum       | 0.1    | 0.0   | 0.1   |  |  |
| 55 Gallon Drum       | 0.6    | 0.0   | 0.6   |  |  |
| As-Generated Total   | 0.7    | 0.0   | 0.7   |  |  |

| Final Form Volumes                |        |       |       |  |
|-----------------------------------|--------|-------|-------|--|
| ContainerType                     | Stored | Proj. | Total |  |
| 55 Gallon Drum                    | 0.6    | 0.0   | 0.6   |  |
| 55 Gallon Drum/Overpack 30 Gallon | 0.2    | 0.0   | 0.2   |  |

Final Form Total 0.8 0.0 0.8

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 195.07                        |
| Aluminum-Base Metal/Alloys     | 0.29                          |
| Other Metal/Alloys             | 14.44                         |
| Other Inorganic Materials      | 15.71                         |
| Cellulosics                    | 48.37                         |
| Rubber                         | 0.83                          |
| Plastics                       | 4.01                          |
| Solidified, Inorganic Matrix   | 110.70                        |
| Cement (Solidified)            | 124.06                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 150.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 8.56E-01                            |  |  |  |  |
| Np-237  | 4.78E-06                            |  |  |  |  |
| Pu-238  | 4.18E-01                            |  |  |  |  |
| Pu-239  | 6.04E+00                            |  |  |  |  |
| Pu-240  | 1.75E+00                            |  |  |  |  |
| Pu-241  | 9.25E+00                            |  |  |  |  |
| Pu-242  | 2.64E-04                            |  |  |  |  |
| Th-229  | 1.50E-13                            |  |  |  |  |
| Th-230  | 4.86E-09                            |  |  |  |  |
| Th-232  | 1.01E-15                            |  |  |  |  |
| U-233   | 2.15E-10                            |  |  |  |  |
| U-234   | 3.72E-05                            |  |  |  |  |
| U-235   | 1.67E-07                            |  |  |  |  |
| U-236   | 1.46E-06                            |  |  |  |  |
| U-238   | 1.12E-12                            |  |  |  |  |

#### **Waste Stream Description**

Organic liquids (solvents and oils) generated from facility and equipment operations and maintenance and absorbed on vermiculite.

#### **Management Comments**

Former WS IDs: LAT004, LAM006, also containes containers not previously associated with an identified BIR WS

0.00

0.00

### Waste Stream ID: LA-TA-03-31

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cemented inorganics, lea                   | Invent | Inventory Date 9/30/2002 |       |                              |                               |                                 |                                     |
|--|--------|--------------------------|-------|------------------------------|-------------------------------|---------------------------------|-------------------------------------|
|  |        |                          |       |                              |                               | ncentrations Decayed to CY 2002 |                                     |
| Final Waste Form Descriptors                                     |        |                          |       | Waste Material Parameters    |                               | Final Form Radionuclides        |                                     |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |                          |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |                          |       | Iron-Base Metal/Alloys       | 0.00                          | Pu-238                          | 8.36E-02                            |
| ContainerType  | Stored | Proj.                    | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239                          | 4.23E-02                            |
| 55 Gallon Drum   | 0.2    | 0.0                      |       | Other Metal/Alloys           | 0.00                          | Th-230                          | 1.05E-09                            |
| As-Generated Total   |        |                          |       | Other Inorganic Materials    | 43.30                         | U-234                           | 7.73E-06                            |
|  | 0.2    | 0.0                      | 0.2   | Cellulosics                  | 0.00                          | U-235                           | 1.21E-09                            |
| Final Form Volumes   |        |                          |       | Rubber                       | 0.00                          |                                 |                                     |
| ContainerType  | Stored | Proj.                    | Total | Plastics                     | 0.00                          |                                 |                                     |
| 55 Gallon Drum   | 0.2    | 0.0                      | 0.2   | Solidified, Inorganic Matrix | 453.40                        |                                 |                                     |
|  |        |                          |       | Cement (Solidified)          | 508.10                        |                                 |                                     |
| Final Form Total   | 0.2    | 0.0                      | 0.2   | Vitrified                    | 0.00                          |                                 |                                     |
|  |        |                          |       | Solidified, Organic Matrix   | 0.00                          |                                 |                                     |
|  |        |                          |       | Soils                        | 0.00                          |                                 |                                     |
|  |        |                          |       | Packaging Material, Steel    | 131.00                        |                                 |                                     |
|  |        |                          |       | Packaging Material, Plastic  | 37.00                         |                                 |                                     |

#### **Waste Stream Description**

Solidified inorganic process solids generated from facility and equipment operations and maintenance. This waste consists of process leached solids, ash, filter cakes, salts, metal oxides, fines, and evaporator bottoms stabilized in Portland or gypsum cement.

Packaging Material, Lead
Packaging Material, Steel Plug

### **Management Comments**

Former WS IDs: LAM006

## Waste Stream ID: LA-TA-03-40 Appendix J

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| ocal ID TA-03-40 Handling CH Final Wa                            | ste Form | Jncategor | ized Metal | Waste Matrix Code S5400      | Activity Co                   | ncentrations D | rations Decayed to CY 2002          |  |
|--|----------|-----------|------------|------------------------------|-------------------------------|----------------|-------------------------------------|--|
| Final Waste Form Descriptors                                     |          |           |            | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |  |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |          |           |            | Iron-Base Metal/Alloys       | 272.38                        | Pu-238         | 1.03E-04                            |  |
| ContainerType  | Stored   | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239         | 2.06E-04                            |  |
| Crate  | 27.7     | 0.0       |            | Other Metal/Alloys           | 30.28                         | Th-230         | 1.39E-12                            |  |
| Crate / Pit  | 113.3    |           |            | Other Inorganic Materials    | 6.79                          | U-234          | 9.93E-09                            |  |
| FRP Box  | 16.0     |           |            | Cellulosics                  | 63.95                         | U-235          | 3.36E-09                            |  |
|  |          |           |            | Rubber                       | 1.10                          |                |                                     |  |
| As-Generated Total   | 157.0    | 0.0       | 157.0      | Plastics                     | 5.20                          |                |                                     |  |
| Final Form Volumes   |          |           |            | Solidified, Inorganic Matrix | 0.00                          |                |                                     |  |
| ContainerType  | Stored   | Proj.     | Total      | Cement (Solidified)          | 0.00                          |                |                                     |  |
| 5'x5'x8' Box   | 266.0    |           |            | Vitrified                    | 0.00                          |                |                                     |  |
| O NO NO BOX  | 200.0    | 0.0       | 200.0      | Solidified, Organic Matrix   | 0.00                          |                |                                     |  |
| Final Form Total   | 266.0    | 0.0       | 266.0      | Soils                        | 0.00                          |                |                                     |  |
|  |          |           |            | Packaging Material Steel     | 154 00                        |                |                                     |  |

### **Waste Stream Description**

This waste consists mostly of metals or metal equipment, either whole or sectioned, and small volumes of combustibles generated during decommissioning, sectioning, and packaging. The waste forms primarily include gloveboxes, tools, cans, motors, pumps, decommissioned process equipment, and ductwork

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

0.00

0.00

### **Management Comments**

Former WS IDs: LAM001, LAM009, LAT009

# Waste Stream ID: LA-TA-03-42 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A      | Stream Name | HEPA fil | Inventory Date 9/30/2002 |                         |               |                                |
|----------|----------|-------------|----------|--------------------------|-------------------------|---------------|--------------------------------|
| Local ID | TA-03-42 | Handling    | СН       | Final Waste Form Filter  | Waste Matrix Code S5410 | Activity Cond | centrations Decayed to CY 2002 |
|          |          |             |          |                          |                         |               |                                |

## Final Waste Form Descriptors

Category: Defense TRU Waste Source: N/A

### Waste Volume Detail (m3)

| As-Generated Volumes |              |                      |  |  |  |  |  |
|----------------------|--------------|----------------------|--|--|--|--|--|
| Stored               | Proj.        | Total                |  |  |  |  |  |
| 57.6                 | 0.0          | 57.6                 |  |  |  |  |  |
| 85.0                 | 0.0          | 85.0                 |  |  |  |  |  |
| 34.0                 | 0.0          | 34.0                 |  |  |  |  |  |
|                      | 57.6<br>85.0 | 57.6 0.0<br>85.0 0.0 |  |  |  |  |  |

| <b>As-Generated Total</b> | 176.6 | 0.0 | 176.6 |
|---------------------------|-------|-----|-------|

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 5'x5'x8' Box       | 300.0  | 0.0   | 300.0 |

| Final Form Total | 300.0 | 0.0 | 300.0 |
|------------------|-------|-----|-------|

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 258.31                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 291.75                        |
| Other Inorganic Materials      | 6.80                          |
| Cellulosics                    | 2.62                          |
| Rubber                         | 0.04                          |
| Plastics                       | 0.22                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| 5.64E-08                            |  |  |  |  |  |  |
| 3.43E-13                            |  |  |  |  |  |  |
| 2.30E-06                            |  |  |  |  |  |  |
| 1.14E-05                            |  |  |  |  |  |  |
| 1.51E-07                            |  |  |  |  |  |  |
| 5.38E-07                            |  |  |  |  |  |  |
| 8.70E-12                            |  |  |  |  |  |  |
| 1.24E-20                            |  |  |  |  |  |  |
| 3.09E-14                            |  |  |  |  |  |  |
| 9.94E-23                            |  |  |  |  |  |  |
| 1.66E-17                            |  |  |  |  |  |  |
| 2.20E-10                            |  |  |  |  |  |  |
| 3.37E-13                            |  |  |  |  |  |  |
| 1.34E-13                            |  |  |  |  |  |  |
| 3.94E-20                            |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |

## **Waste Stream Description**

HEPA filter waste generated from facility and equipment operations and maintenance. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

## **Management Comments**

Former WS IDs: LAT005, LAT009

## Waste Stream ID: LA-TA-21-06

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Combustible debris was                     | e (mixed) |           |       |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|-----------|-----------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID TA-21-06 Handling CH Final W                            | aste Form | Combustib | le    | Waste Matrix Code S5300      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |           |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |       | Iron-Base Metal/Alloys       | 257.70                        | Am-241          | 7.23E-04                            |
| ContainerType  | Stored    | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.40                          | Np-237          | 4.22E-09                            |
| 55 Gallon Drum   | 180.8     |           |       | Other Metal/Alloys           | 18.80                         | Pu-238          | 3.35E-01                            |
| Drum / 30-gallon / Pit   | 24.3      |           |       | Other Inorganic Materials    | 6.80                          | Pu-239          | 4.23E-03                            |
| Drum / 80-gallon   | 0.9       |           |       | Cellulosics                  | 64.00                         | Pu-240          | 1.30E-03                            |
|  |           |           |       | Rubber                       | 1.10                          | Pu-241          | 7.33E-03                            |
| As-Generated Total   | 206.0     | 0.0       | 206.0 | Plastics                     | 5.30                          | Pu-242          | 2.41E-07                            |
| Final Form Volumes   |           |           |       | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 1.42E-16                            |
| ContainerType  | Stored    | Proj.     | Total | Cement (Solidified)          | 0.00                          | Th-230          | 4.19E-09                            |
| 55 Gallon Drum   | 180.8     |           |       | Vitrified                    | 0.00                          | Th-232          | 8.00E-19                            |
| 55 Gallon Drum/Overpack 30 Gallon                                | 44.7      | 0.0       |       | Solidified, Organic Matrix   | 0.00                          | U-233           | 1.97E-13                            |
| 80 Gallon Drum   | 0.9       |           |       | Soils                        | 0.00                          | U-234           | 3.10E-05                            |
|  |           |           |       | Packaging Material, Steel    | 145.86                        | U-235           | 1.99E-08                            |
| Final Form Total   | 226.4     | 0.0       | 226.4 | Packaging Material, Plastic  | 36.96                         | U-236           | 1.12E-09                            |

### **Waste Stream Description**

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

1.06E-15

#### **Management Comments**

Former WS IDs: LAM004, LAT004

## Waste Stream ID: LA-TA-21-12 Appendix J

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID N/A Stream Name Non-combustible and concoral ID TA-21-12 Handling CH Final Wa |        | Inventory Date 9/30/200 centrations Decayed to CY 200 |       |                                |                               |            |                                     |
|---|--------|---|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors  |        |   |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)                    |        |   |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |        |   |       | Iron-Base Metal/Alloys         | 1.40                          | Am-241     | 2.31E-03                            |
| ContainerType   | Stored | Proj.   | Total | Aluminum-Base Metal/Alloys     | 0.20                          | Np-237     | 1.41E-08                            |
| 55 Gallon Drum & Pit  | 179.5  | 0.0   |       | Other Metal/Alloys             | 0.20                          | Pu-238     | 1.73E+00                            |
| Drum / 15-gallon  | 1.3    | 0.0   | 1.3   | Other Inorganic Materials      | 0.20                          | Pu-239     | 1.26E-02                            |
| Drum / 30-gallon  | 0.2    | 0.0   | 0.2   | Cellulosics                    | 21.20                         | Pu-240     | 3.77E-03                            |
| Drum / 30-gallon / Pit  | 35.5   | 0.0   | 35.5  | Rubber                         | 8.50                          | Pu-241     | 2.16E-02                            |
| Drum / 85-gallon  | 1.9    | 0.0   | 1.9   | Plastics                       | 35.80                         | Pu-242     | 7.48E-07                            |
| Standard Waste Box  | 15.1   | 0.0   | 15.1  | Solidified, Inorganic Matrix   | 0.20                          | Th-229     | 3.10E-06                            |
|   |        |   |       | Cement (Solidified)            | 0.00                          | Th-230     | 2.17E-08                            |
| As-Generated Total  | 233.6  | 0.0   | 233.6 | Vitrified                      | 0.00                          | Th-232     | 2.33E-18                            |
| Final Form Volumes  |        |   |       | Solidified, Organic Matrix     | 0.20                          | U-233      | 1.14E-03                            |
| ContainerType   | Stored | Proj.   | Total | Soils                          | 0.20                          | U-234      | 1.60E-04                            |
| 55 Gallon Drum  | 179.5  | 0.0   | 179.5 | Packaging Material, Steel      | 151.78                        | U-235      | 5.79E-08                            |
| 55 Gallon Drum/Overpack 15 Gallon Drum  | 1.7    | 0.0   | 1.7   | Packaging Material, Plastic    | 34.88                         | U-236      | 3.24E-09                            |
| 55 Gallon Drum/Overpack 30 Gallon   | 65.7   | 0.0   | 65.7  | Packaging Material, Lead       | 0.00                          | U-238      | 8.12E-08                            |
| 85 Gallon Drum  | 1.9    | 0.0   | 1.9   | Packaging Material, Steel Plug | 0.00                          | <u> </u>   |                                     |
| Standard Waste Box Waste Stream Description   | 15.1   | 0.0   | 15.1  |                                |                               |            |                                     |

Non-combustible and combustible waste generated figurations and recombustible waste generated figurations and reco

#### **Management Comments**

Former WS IDs: LAM001, LAT004, LAT005, LAT006, LAT009, also containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-21-13

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cemented wastewater tre                    | atment slu | dge (mixe    | d)        |                              |                               | Invent         | ory Date 9/30/2002                  |
|--|------------|--------------|-----------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID TA-21-13 Handling CH Final Wa                           | ste Form   | Solidified I | norganics | Waste Matrix Code S3100      | Activity Con                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |            |              |           | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |            |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 7.64E-02                            |
| ContainerType  | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237         | 7.86E-07                            |
| 55 Gallon Drum   | 16.2       | •            |           | Other Metal/Alloys           | 0.00                          | Pu-239         | 1.81E-02                            |
|  |            |              |           | Other Inorganic Materials    | 0.00                          | Th-229         | 5.20E-14                            |
| As-Generated Total   | 16.2       | 0.0          | 16.2      | Cellulosics                  | 0.00                          | U-233          | 5.34E-11                            |
| Final Form Volumes   |            |              |           | Rubber                       | 0.00                          | U-235          | 5.54E-10                            |
| ContainerType  | Stored     | Proj.        | Total     | Plastics                     | 0.00                          |                |                                     |
| 55 Gallon Drum   | 16.2       | 0.0          | 16.2      | Solidified, Inorganic Matrix | 603.00                        |                |                                     |
|  |            |              |           | Cement (Solidified)          | 693.00                        |                |                                     |
| Final Form Total   | 16.2       | 0.0          | 16.2      | Vitrified                    | 0.00                          |                |                                     |
|  |            |              |           | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|  |            |              |           | Soils                        | 0.00                          |                |                                     |
|  |            |              |           | Packaging Material, Steel    | 131.00                        |                |                                     |
|  |            |              |           | Packaging Material, Plastic  | 37.00                         |                |                                     |

#### **Waste Stream Description**

Solidified aqueous waste generated from facility and equipment operations and maintenance. Solidified aqueous waste is a dewatered sludge generated by the vacuum filtration of solids from treated aqueous waste slurry. The filter media (diatomaceous earth) with the entrapped filtrate is then placed in drums with dry concreted absorbent.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

## **Management Comments**

Former WS IDs: LAM002

0.00

Packaging Material, Steel Plug

#### Appendix J LA-TA-21-14 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Plutonium contaminated so                  | oil (non-m  | ixed) |       |                              |                               | Invent     | ory Date 9/30/20                   |
|--|---|-------|-------|------------------------------|-------------------------------|------------|------------------------------------|
| Local ID TA-21-14 Handling CH Final Was                          | ocal ID TA-21-14 Handling CH Final Waste Form Soils |       |       |                              | Activity Co                   |            | ecayed to CY 200                   |
| Final Waste Form Descriptors                                     |   |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                      |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |   |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentratio<br>(Ci/m3) |
| As-Generated Volumes   |   |       |       | Iron-Base Metal/Alloys       | 55.61                         | Am-241     | 1.57E-05                           |
| -  | Stored  | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.15E-11                           |
| 55 Gallon Drum   | 7.9   | 0.0   |       | Other Metal/Alloys           | 6.18                          | Pu-238     | 1.10E+00                           |
|  |   |       |       | Other Inorganic Materials    | 0.00                          | Pu-239     | 5.68E-01                           |
| As-Generated Total   | 7.9   | 0.0   | 7.9   | Cellulosics                  | 0.00                          | Pu-240     | 6.64E-06                           |
| Final Form Volumes   |   |       |       | Rubber                       | 0.00                          | Pu-241     | 2.92E-04                           |
|  | Stored  | Proj. | Total | Plastics                     | 0.00                          | Th-229     | 9.66E-20                           |
| 55 Gallon Drum   | 7.9   | 0.0   | 7.9   | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 7.16E-10                           |
|  |   |       |       | Cement (Solidified)          | 0.00                          | Th-232     | 2.38E-22                           |
| Final Form Total   | 7.9   | 0.0   | 7.9   | Vitrified                    | 0.00                          | U-233      | 4.52E-16                           |
|  |   |       |       | Solidified, Organic Matrix   | 0.00                          | U-234      | 2.25E-05                           |
|  |   |       |       | Soils                        | 955.21                        | U-235      | 3.92E-09                           |
|  |   |       |       | Packaging Material, Steel    | 131.00                        | U-236      | 1.38E-12                           |
|  |   |       |       | Packaging Material, Plastic  | 37.00                         |            | -                                  |
|  |   |       |       | Packaging Material, Lead     | 0.00                          |            |                                    |

## **Waste Stream Description**

Soils contaminated with transuranic material.

## **Management Comments**

Former WS IDs: LAT008

Data version 4.09 Waste stream derived from LA-TA-03-28. BAC 4/2/03

## Waste Stream ID: LA-TA-21-15

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Solidified organics (mixed                 | )  |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|--|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID TA-21-15 Handling CH Final Was                          | Handling CH Final Waste Form Solidified Organics |       |       | Waste Matrix Code S3200        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |  |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |  |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |  |       |       | Iron-Base Metal/Alloys         | 250.98                        | Am-241          | 2.48E-02                            |
| ContainerType  | Stored   | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.39                          | Np-237          | 1.40E-07                            |
| 55 Gallon Drum   | 3.3  | 0.0   | 3.3   | Other Metal/Alloys             | 18.31                         | Pu-238          | 6.79E-03                            |
| Drum / 30-gallon / Pit   | 0.1  | 0.0   | 0.1   | Other Inorganic Materials      | 7.75                          | Pu-239          | 3.92E-01                            |
|  | I  |       |       | Cellulosics                    | 62.33                         | Pu-240          | 6.74E-02                            |
| As-Generated Total   | 3.4  | 0.0   | 3.4   | Rubber                         | 1.07                          | Pu-241          | 2.65E-01                            |
| Final Form Volumes   |  |       |       | Plastics                       | 5.16                          | Pu-242          | 3.89E-06                            |
| ContainerType  | Stored   | Proj. | Total | Solidified, Inorganic Matrix   | 11.65                         | Th-229          | 4.44E-15                            |
| 55 Gallon Drum   | 3.3  | 0.0   | 3.3   | Cement (Solidified)            | 13.41                         | Th-230          | 7.88E-11                            |
| 55 Gallon Drum/Overpack 30 Gallon                                | 0.2  | 0.0   | 0.2   | Vitrified                      | 0.00                          | Th-232          | 3.88E-17                            |
|  |  |       |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 6.32E-12                            |
| Final Form Total   | 3.5  | 0.0   | 3.5   | Soils                          | 0.00                          | U-234           | 6.04E-07                            |
|  |  |       |       | Packaging Material, Steel      | 135.47                        | U-235           | 1.08E-08                            |
|  |  |       |       | Packaging Material, Plastic    | 37.00                         | U-236           | 5.60E-08                            |
|  |  |       |       | Packaging Material, Lead       | 0.00                          | U-238           | 1.64E-14                            |
|  |  |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

Organic liquids generated from facility and equipment operations and maintenance and absorbed on vermiculite.

## **Management Comments**

Former WS IDs: LAT004, LAT006

0.00

Packaging Material, Steel Plug

## Waste Stream ID: LA-TA-21-16

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cemented inorganics (mi.                   | xed)     |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-21-16 Handling CH Final Wa                           | ste Form | Solidified I | norganics | Waste Matrix Code S3100      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 1.46E-02                            |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 8.92E-08                            |
| Drum / 30 gallon   | 22.9     |              |           | Other Metal/Alloys           | 0.00                          | Pu-238     | 5.16E-03                            |
| Drum / 55 gallon   | 29.1     | 0.0          |           | Other Inorganic Materials    | 43.30                         | Pu-239     | 1.48E-01                            |
| Drum / 85 gallon   | 0.3      | 0.0          |           | Cellulosics                  | 0.00                          | Pu-240     | 3.54E-02                            |
|  |          |              |           | Rubber                       | 0.00                          | Pu-241     | 1.38E-01                            |
| As-Generated Total   | 52.4     | 0.0          | 52.4      | Plastics                     | 0.00                          | Pu-242     | 3.03E-06                            |
| Final Form Volumes   |          |              |           | Solidified, Inorganic Matrix | 453.40                        | Th-229     | 3.27E-15                            |
| ContainerType  | Stored   | Proj.        | Total     | Cement (Solidified)          | 508.10                        | Th-230     | 6.95E-11                            |
| 55 Gallon Drum   | 29.1     | 0.0          |           | Vitrified                    | 0.00                          | Th-232     | 2.34E-17                            |
| 55 Gallon Drum/Overpack 30 Gallon                                | 42.2     | 0.0          |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 4.34E-12                            |
| 85 Gallon Drum   | 0.3      | 0.0          |           | Soils                        | 0.00                          | U-234      | 4.96E-07                            |
|  |          |              |           | Packaging Material, Steel    | 175.60                        | U-235      | 8.76E-07                            |
| Final Form Total   | 71.7     | 0.0          | 71.7      | Packaging Material, Plastic  | 36.96                         | U-236      | 3.15E-08                            |
|  |          |              |           | Packaging Material Lead      | 0.00                          | 11-238     | 1 37F <sub>-</sub> 14               |

### **Waste Stream Description**

Solidified inorganic process solids generated from facility and equipment operations and maintenance. This waste consists of process leached solids, ash, filter cakes, salts, metal oxides, fines, or evaporator bottoms stabilized in Portland or gypsum cement.

## **Management Comments**

Former WS IDs: LAM006, LAM009

## Waste Stream ID: LA-TA-21-40

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Metal debris (mixed)                       |        |       |        |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|--------|-------|--------|------------------------------|-------------------------------|------------|-------------------------------------|
|  |        |       |        | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |        |       |        | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |       |        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |       |        | Iron-Base Metal/Alloys       | 272.60                        | Am-241     | 1.20E-07                            |
|  | ored   | Proj. | Total  | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 5.31E-13                            |
| 7.   | 732.9  | 0.0   | 732.9  | Other Metal/Alloys           | 30.30                         | Pu-238     | 1.62E-03                            |
| FRP Box  | 288.0  | 0.0   | 288.0  | Other Inorganic Materials    | 6.80                          | Pu-239     | 3.26E-04                            |
| L  | T      | L     |        | Cellulosics                  | 64.00                         | Pu-240     | 3.62E-07                            |
| As-Generated Total 1   | 1020.9 | 0.0   | 1020.9 | Rubber                       | 1.10                          | Pu-241     | 1.81E-06                            |
| Final Form Volumes   |        |       |        | Plastics                     | 5.20                          | Pu-242     | 2.09E-11                            |
| ContainerType Sto  | ored   | Proj. | Total  | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.09E-20                            |
|  | 1022.5 | 0.0   | 1022.5 | Cement (Solidified)          | 0.00                          | Th-230     | 1.23E-11                            |
|  |        |       |        | Vitrified                    | 0.00                          | Th-232     | 1.41E-22                            |
| Final Form Total 1   | 1022.5 | 0.0   | 1022.5 | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.93E-17                            |
|  |        |       |        | Soils                        | 0.00                          | U-234      | 1.16E-07                            |
|  |        |       |        | Packaging Material, Steel    | 154.00                        | U-235      | 7.39E-12                            |
|  |        |       |        | Packaging Material, Plastic  | 1.20                          | U-236      | 2.47E-13                            |
|  |        |       |        | Packaging Material, Lead     | 0.00                          | U-238      | 7.25E-20                            |

#### **Waste Stream Description**

Mixed metal scrap, discarded gloveboxes, and incidental combustible waste generated from facility and equipment decontamination and decommissioning at TA21. This waste consists mostly of metals or metal equipment, either whole or sectioned, gloveboxes, glovebox equipment, glass, and small volumes of combustibles generated during decommissioning. This waste may also include items such as small tools, cans, motors, and pumps. Gloveboxes may include gloves, wiring, plastic, glass windows, plastic wrapping, and lead shielding.

Packaging Material, Steel Plug

0.00

### **Management Comments**

Former WS IDs: LAM001, LAM009

# Waste Stream ID: LA-TA-21-41 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A      | Stream Name | Plutoniur | m-contaminated soil (non-mixed) |                         |               | Inventory Date         | 9/30/2002      |
|----------|----------|-------------|-----------|---------------------------------|-------------------------|---------------|------------------------|----------------|
| Local ID | TA-21-41 | Handling    | СН        | Final Waste Form Soils          | Waste Matrix Code S4100 | Activity Cond | centrations Decayed to | <b>CY</b> 2002 |
|          |          |             |           |                                 |                         |               |                        |                |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |             |                     |  |  |  |  |
|----------------------|-------------|---------------------|--|--|--|--|
| Stored               | Proj.       | Total               |  |  |  |  |
| 22.5                 | 0.0         | 22.5                |  |  |  |  |
| 3.2                  | 0.0         | 3.2                 |  |  |  |  |
| 1.6                  | 0.0         | 1.6                 |  |  |  |  |
|                      | 22.5<br>3.2 | 22.5 0.0<br>3.2 0.0 |  |  |  |  |

| <b>As-Generated Total</b> | 27.3 | 0.0 | 27.3 |
|---------------------------|------|-----|------|
|                           |      |     |      |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 5'x5'x8' Box       |                  | 39.6   | 0.0   | 39.6  |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 41.5   | 0.0   | 41.5  |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 272.60                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 30.30                         |
| Other Inorganic Materials      | 6.80                          |
| Cellulosics                    | 64.00                         |
| Rubber                         | 1.10                          |
| Plastics                       | 5.30                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.05                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Pu-239  | 1.71E-02                            |
| U-235   | 3.88E-10                            |

### **Waste Stream Description**

Soils contaminated with transuranic material resulting from TA21 decontamination and decommissioning.

## **Management Comments**

Former WS IDs: LAT008, LAT009

0.00

## Waste Stream ID: LA-TA-21-42

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | INO WAOIL I          | JAULLII    | AL HAVEIAL | OKT WASTET KOTTEE            |                               |            |                                     |
|--|----------------------|------------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID N/A Stream Name Metal debris (nonmixed)                    |                      |            |            |                              |                               |            | ory Date 9/30/2002                  |
| Local ID TA-21-42 Handling CH F                                  | inal Waste Form      | Uncategori | ized Metal | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |                      |            |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |                      |            |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                      |            |            | Iron-Base Metal/Alloys       | 264.04                        | Am-241     | 2.46E-05                            |
| ContainerType  | Stored               | Proj.      | Total      | Aluminum-Base Metal/Alloys   | 0.23                          | Np-237     | 5.37E-10                            |
| crate  | 95.2                 |            |            | Other Metal/Alloys           | 23.76                         | Pu-238     | 7.76E-04                            |
| crate/pit  | 483.1                | 0.0        |            | Other Inorganic Materials    | 6.80                          | Pu-239     | 2.38E-04                            |
| FRP Box  | 9.7                  |            |            | Cellulosics                  | 63.98                         | Pu-240     | 1.62E-05                            |
| Other/Pit Other  | 9.9                  |            |            | Rubber                       | 1.10                          | Pu-241     | 8.70E-05                            |
|  |                      |            |            | Plastics                     | 5.26                          | Pu-242     | 9.38E-10                            |
| As-Generated   | <b>d Total</b> 597.9 | 0.0        | 597.9      | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 7.57E-17                            |
| Final Form Volumes   |                      |            |            | Cement (Solidified)          | 0.00                          | Th-230     | 1.12E-11                            |
| ContainerType  | Stored               | Proj.      | Total      | Vitrified                    | 0.00                          | Th-232     | 1.15E-20                            |
| 5'x5'x8' Box   | 583.0                |            |            | Solidified, Organic Matrix   | 0.00                          | U-233      | 5.70E-14                            |
| Standard Waste Box   | 107.7                |            |            | Soils                        | 0.00                          | U-234      | 7.73E-08                            |
|  |                      |            |            | Packaging Material, Steel    | 154.00                        | U-235      | 1.08E-10                            |
| Final Forn   | n <b>Total</b> 690.7 | 0.0        | 690.7      | Packaging Material, Plastic  | 0.19                          | U-236      | 1.50E-11                            |
|  |                      |            |            | Packaging Material, Lead     | 0.00                          | U-238      | 4.39E-18                            |

#### **Waste Stream Description**

Metal scrap, discarded gloveboxes, and incidental combustible waste generated from facility and equipment decontamination and decommissioning at TA21. This waste consists mostly of metals or metal equipment, either whole or sectioned gloveboxes, glovebox equipment, glass, and small volumes of combustibles generated during decommissioning. This waste may also include items such as small tools, cans, motors, and pumps. Gloveboxes may include gloves, wiring, plastic, glass windows, and plastic wrapping.

Packaging Material, Steel Plug

#### **Management Comments**

Former WS IDs: LAM001, LAT001, LAT004, LAT009

# Waste Stream ID: LA-TA-21-43 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Corrugated Metal Pipes and Area T Shafts (mixed)

Local ID TA-21-43 Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3100 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |        |  |  |  |
|----------------------|--------|-------|--------|--|--|--|
| ContainerType        | Stored | Proj. | Total  |  |  |  |
| Other/ Area T        | 2043.3 | 0.0   | 2043.3 |  |  |  |
| Other/Pit            | 442.4  | 0.0   | 442.4  |  |  |  |
| Other/Pit 4 Area T   | 40.2   | 0.0   | 40.2   |  |  |  |

| Final Form Volumes |        |       |        |  |  |  |  |
|--------------------|--------|-------|--------|--|--|--|--|
| ContainerType      | Stored | Proj. | Total  |  |  |  |  |
| 5'x5'x8' Box       | 447.1  | 0.0   | 447.1  |  |  |  |  |
| Standard Waste Box | 2086.6 | 0.0   | 2086.6 |  |  |  |  |

**As-Generated Total** 

Final Form Total

2525.9

2533.7

0.0

2525.9

2533.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 603.00                        |
| Cement (Solidified)            | 693.00                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.99                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |  |
|-------------------------------------|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| 2.00E-02                            |  |  |  |  |
| 1.22E-07                            |  |  |  |  |
| 7.04E-03                            |  |  |  |  |
| 2.02E-01                            |  |  |  |  |
| 4.83E-02                            |  |  |  |  |
| 1.89E-01                            |  |  |  |  |
| 4.14E-06                            |  |  |  |  |
| 4.47E-15                            |  |  |  |  |
| 9.48E-11                            |  |  |  |  |
| 3.19E-17                            |  |  |  |  |
| 5.92E-12                            |  |  |  |  |
| 6.76E-07                            |  |  |  |  |
| 1.20E-06                            |  |  |  |  |
| 4.31E-08                            |  |  |  |  |
| 1.87E-14                            |  |  |  |  |
|                                     |  |  |  |  |

## **Waste Stream Description**

Pipes and shafts filled with cement and wastewater treatment sludge from operations at TA-21.

### **Management Comments**

Former WS IDs: LAM002, LAM003

# Waste Stream ID: LA-TA-21-44 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                  |             | 1        |                             |        |                            |         |          |         |                  | <u>-</u>        |         |
|----------|------------------|-------------|----------|-----------------------------|--------|----------------------------|---------|----------|---------|------------------|-----------------|---------|
| HQ ID    | N/A              | Stream Name | Plutoniu | ım contaminated soil (non-n | nixed) |                            |         |          |         | Inventory D      | <b>Date</b> 9/3 | 30/2002 |
| Local ID | TA-21-44         | Handling    | CH       | Final Waste Form            | Soils  | Waste Matrix Code          | S4100   | Activity | / Conce | entrations Decay | ed to CY        | 2002    |
|          |                  |             |          |                             | •      | <br>•                      |         |          |         |                  |                 |         |
| Final Wa | ste Form Descrip | tors        |          |                             |        | <b>Waste Material Para</b> | ameters |          |         | Final Form Rad   | lionuclid       | les     |
| Categ    | ory: Defense TF  | RU Waste S  | ource:   | N/A                         |        |                            |         | Average  |         |                  | Typic           | cal     |

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| Crate                | 79.0   | 0.0   | 79.0  |  |  |
| Crate/Pit            | 15.9   | 0.0   | 15.9  |  |  |
| FRP Box              | 1.6    | 0.0   | 1.6   |  |  |
| As-Generated Tota    | 96.5   | 0.0   | 96.5  |  |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 5'x5'x8' Box       |                  | 135.8  | 0.0   | 135.8 |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 137.7  | 0.0   | 137.7 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 121.18                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 13.47                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 28.45                         |
| Rubber                         | 0.49                          |
| Plastics                       | 2.36                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 666.56                        |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.02                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.49E-04                            |
| Np-237  | 7.82E-10                            |
| Pu-238  | 2.71E-02                            |
| Pu-239  | 8.38E-01                            |
| Pu-240  | 2.24E-03                            |
| Pu-241  | 4.88E-02                            |
| Th-229  | 1.35E-18                            |
| Th-230  | 1.76E-11                            |
| Th-232  | 8.03E-20                            |
| U-233   | 8.07E-15                            |
| U-234   | 5.53E-07                            |
| U-235   | 5.78E-09                            |
| U-236   | 4.65E-10                            |

### **Waste Stream Description**

Soils contaminated with transuranic material resulting from TA21 decontamination and decommissioning, packaged in containers listed as crates.

## **Management Comments**

Former WS IDs: LAT008, LAT009

# Waste Stream ID: LA-TA-48-01 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Combustible and noncombustible debris (non-mixed)

Local ID TA-48-01 Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: N/A

### Waste Volume Detail (m3)

| As-Generated Volumes |       |     |       |       |  |
|----------------------|-------|-----|-------|-------|--|
| ContainerType        | Store | d   | Proj. | Total |  |
| СВ                   | (     | 0.0 | 0.0   | 0.0   |  |
| Drum / 55 gallon     | (     | ).4 | 0.0   | 0.4   |  |
|                      |       |     |       |       |  |

| _                  |     |     |     |
|--------------------|-----|-----|-----|
| As-Generated Total | 0.5 | 0.0 | 0.5 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.6    | 0.0   | 0.6   |

| Final Form Total | 0.6 | 0.0 | 0.6 |
|------------------|-----|-----|-----|

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 253.95                        |
| Aluminum-Base Metal/Alloys     | 0.22                          |
| Other Metal/Alloys             | 143.89                        |
| Other Inorganic Materials      | 7.33                          |
| Cellulosics                    | 34.83                         |
| Rubber                         | 0.60                          |
| Plastics                       | 2.88                          |
| Solidified, Inorganic Matrix   | 6.51                          |
| Cement (Solidified)            | 7.49                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| T!      |               |  |
|---------|---------------|--|
|         | Typical       |  |
|         | Concentration |  |
| Isotope | (Ci/m3)       |  |
|         |               |  |
| Am-241  | 1.36E-01      |  |
| Cm-244  | 4.19E+01      |  |
| Np-237  | 2.57E-05      |  |
| Pu-238  | 2.24E-02      |  |
| Pu-239  | 1.90E-01      |  |
| Pu-240  | 6.80E-01      |  |
| Pu-241  | 8.91E-01      |  |
| Pu-242  | 2.70E-05      |  |
| Th-229  | 7.62E-06      |  |
| Th-230  | 1.89E-10      |  |
| Th-232  | 4.63E-16      |  |
| U-233   | 3.39E-03      |  |
| U-234   | 1.70E-06      |  |
| U-235   | 4.50E-09      |  |
| U-236   | 6.17E-07      |  |
| U-238   | 2.36E-04      |  |

**Waste Stream Description** 

Combustible and noncombustible debris

**Management Comments** 

Former WS IDs: LAT004, LAT005, LAT006

# Waste Stream ID: LA-TA-49-01 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Metal scrap and incidental combustible debris (mixed)

Local ID TA-49-01 Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Crate                |                    | 57.0   | 0.0   | 57.0  |
|                      | As-Generated Total | 57.0   | 0.0   | 57.0  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 5'x5'x8' Box       | 96.2   | 0.0   | 96.2  |
|                    |        |       |       |

**Final Form Total** 96.2 0.0 96.2

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 272.38                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 30.28                         |
| Other Inorganic Materials      | 6.79                          |
| Cellulosics                    | 63.95                         |
| Rubber                         | 1.10                          |
| Plastics                       | 5.20                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Filial Form Radionuclides |               |  |
|---------------------------|---------------|--|
|                           | Typical       |  |
|                           | Concentration |  |
| Isotope                   | (Ci/m3)       |  |
| Am-241                    | 1.09E-01      |  |
| Cm-244                    | 3.37E+01      |  |
| Np-237                    | 2.06E-05      |  |
| Pu-238                    | 1.80E-02      |  |
| Pu-239                    | 1.52E-01      |  |
| Pu-240                    | 5.46E-01      |  |
| Pu-241                    | 7.15E-01      |  |
| Pu-242                    | 2.17E-05      |  |
| Th-229                    | 6.11E-06      |  |
| Th-230                    | 1.51E-10      |  |
| Th-232                    | 3.72E-16      |  |
| U-233                     | 2.72E-03      |  |
| U-234                     | 1.36E-06      |  |
| U-235                     | 3.60E-09      |  |
| U-236                     | 4.96E-07      |  |
| U-238                     | 1.90E-04      |  |

### **Waste Stream Description**

Metal scrap and incidental combustibles generated in 1971 in TA-49 by group CNC11.

#### **Management Comments**

Former WS IDs: LAM001, also containes containers not previously associated with an identified BIR WS

# Waste Stream ID: LA-TA-50-10 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Vacuum filter cake (non-mixed)  | -                | <b>Date</b> 9/30/2002 |
|---|------------------|-----------------------|
| Local ID TA-50-10 Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3100 Activity Conce | entrations Decay | ed to CY 2002         |
|   |                  | •                     |
| Final Waste Form Descriptors Waste Material Parameters  | Final Form Rad   | dionuclides           |
| Category: Defense TRU Waste Source: N/A Average   |                  | Typical               |
| Density   |                  | Concentration         |

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.0    | 0.0   | 1.0   |
|                      | As-Generated Total | 1.0    | 0.0   | 1.0   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.0    | 0.0   | 1.0   |
|                      | Final Form Total   | 1.0    | 0.0   | 1.0   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 272.60                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 30.30                         |
| Other Inorganic Materials      | 6.80                          |
| Cellulosics                    | 64.00                         |
| Rubber                         | 1.10                          |
| Plastics                       | 5.30                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |
|---------|-------------------------------------|--|
| Am-241  | 3.14E-02                            |  |
| Np-237  | 5.11E-08                            |  |
| Pu-238  | 1.22E-02                            |  |
| Pu-239  | 4.41E-02                            |  |
| Th-229  | 8.53E-17                            |  |
| Th-230  | 4.01E-12                            |  |
| U-233   | 5.46E-13                            |  |
| U-234   | 1.77E-07                            |  |
| U-235   | 2.18E-10                            |  |

## **Waste Stream Description**

This waste is a dewatered sludge generated by the vacuum filtration of solids from treated aqueous waste slurry. The filter medium (diatomaceous earth) with the entrapped filtrate is then placed in drums with dry concrete absorbent.

## **Management Comments**

Former WS IDs: LAT003

For Data version 4.09 WMPs copied from LA-TA-50-17. BAC 4/2/03

## Waste Stream ID: LA-TA-50-11 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Combustible debris waste from area WM 66 (mixed)

Local ID TA-50-11 Handling CH Final Waste Form Combustible Waste Matrix Code S5300 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |           |       |       |
|----------------------|-----------|-------|-------|
| ContainerType        | Stored    | Proj. | Total |
| Drum / 55 gallon     | 2.9       | 0.0   | 2.9   |
| Unknown              | 2.4       | 0.0   | 2.4   |
| As-Generated         | Total 5.3 | 0.0   | 5.3   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 2.9    | 0.0   | 2.9   |
| 5'x5'x8' Box       | 5.7    | 0.0   | 5.7   |

Final Form Total 8.6 0.0 8.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.10                          |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 0.50                          |
| Other Inorganic Materials      | 3.60                          |
| Cellulosics                    | 6.60                          |
| Rubber                         | 3.00                          |
| Plastics                       | 11.20                         |
| Solidified, Inorganic Matrix   | 0.10                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.10                          |
| Soils                          | 0.10                          |
| Packaging Material, Steel      | 146.19                        |
| Packaging Material, Plastic    | 12.57                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| 5.44E-03                            |  |  |  |  |  |  |
| 2.75E-08                            |  |  |  |  |  |  |
| 1.95E-03                            |  |  |  |  |  |  |
| 5.44E-02                            |  |  |  |  |  |  |
| 1.22E-02                            |  |  |  |  |  |  |
| 6.42E-02                            |  |  |  |  |  |  |
| 7.03E-07                            |  |  |  |  |  |  |
| 6.72E-16                            |  |  |  |  |  |  |
| 1.44E-10                            |  |  |  |  |  |  |
| 4.32E-18                            |  |  |  |  |  |  |
| 1.10E-12                            |  |  |  |  |  |  |
| 1.46E-06                            |  |  |  |  |  |  |
| 1.18E-09                            |  |  |  |  |  |  |
| 7.95E-09                            |  |  |  |  |  |  |
| 2.13E-02                            |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |

#### **Waste Stream Description**

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

#### **Management Comments**

Former WS IDs: LAM001, LAT001, LAT004, LAT005, LAT009

## Waste Stream ID: LA-TA-50-15

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Non-combustible and con                    |          |           |             |                              | , ( ,                         |                 | ory Date 9/30/2002                  |
|--|----------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID TA-50-15 Handling CH Final Wa                           | ste Form | Heterogen | eous Debris | Waste Matrix Code S5400      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |           |             | Iron-Base Metal/Alloys       | 260.30                        | Am-241          | 6.72E-04                            |
| ContainerType  | Stored   | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.14                          | Cs-137          | 4.73E-05                            |
| 55 Gallon Drum   | 2.5      |           |             | Other Metal/Alloys           | 104.83                        | Np-237          | 3.99E-09                            |
| Other  | 127.9    |           |             | Other Inorganic Materials    | 7.15                          | Pu-238          | 1.20E-02                            |
| Standard Waste Box   | 15.1     | 0.0       |             | Cellulosics                  | 44.84                         | Pu-239          | 2.14E-03                            |
|  |          |           |             | Rubber                       | 0.77                          | Pu-240          | 4.81E-04                            |
| As-Generated Total   | 145.5    | 0.0       | 145.5       | Plastics                     | 3.69                          | Pu-241          | 2.94E-03                            |
| Final Form Volumes   |          |           |             | Solidified, Inorganic Matrix | 4.27                          | Pu-242          | 3.52E-08                            |
| ContainerType  | Stored   | Proj.     | Total       | Cement (Solidified)          | 4.92                          | Th-229          | 1.02E-16                            |
| 55 Gallon Drum   | 2.5      | 0.0       |             | Vitrified                    | 0.00                          | Th-230          | 7.24E-11                            |
| 5'x5'x8' Box   | 141.5    |           |             | Solidified, Organic Matrix   | 0.00                          | Th-232          | 2.37E-19                            |
| Standard Waste Roy   | 15.1     | 0.0       |             | Soils                        | 0.00                          | U-233           | 1.67E-13                            |

### **Waste Stream Description**

Non-combustible and combustible waste generated from facility and equipment operations and maintenance. This waste includes, but may not be limited to, small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, HEPA filters, pipes, glass, graphite, slag and crucibles, salt, discarded lab ware, windows, and bottles. The waste stream may also contain a smaller fraction of combustible solids (e.g., paper, rags, plastic, rubber, leaded gloves) and a small fraction of homogeneous solids (e.g., leached solids, ash, hydroxide cakes, impure oxides).

159.1

159.1

**Final Form Total** 

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

153.64

0.69

0.00

0.00

U-234

U-235

U-236

U-238

7.63E-07

7.28E-08

3.82E-10

6.62E-12

#### **Management Comments**

Former WS IDs: LAM001, LAM009, LAT001, LAT004, LAT006, LAT009

2.97E-10

4.72E-22

2.42E-06

2.03E-06

7.65E-07

1.06E-12

1.36E-18

Waste Stream ID: LA-TA-50-17

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IR   | U WASIE     | SASELII      | NE INVENI | ORY WASTE PROFILE            |                               |            |                                     |  |
|--|-------------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|--|
| HQ ID N/A Stream Name Cemented wastewater treatment sludge (mixed) |             |              |           |                              |                               |            | Inventory Date 9/30/2002            |  |
| Local ID TA-50-17 Handling CH Final                                | Waste Form  | Solidified I | norganics | Waste Matrix Code S3100      | Activity Co                   |            | ecayed to CY 2002                   |  |
| Final Waste Form Descriptors                                       |             |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |             |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes   |             |              |           | Iron-Base Metal/Alloys       | 0.18                          | Am-241     | 8.32E-02                            |  |
| ContainerType  | Stored      | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.18                          | Am-243     | 3.93E-13                            |  |
| Drum / 55 gallon   | 70.3        | •            |           | Other Metal/Alloys           | 0.18                          | Cs-137     | 2.65E-05                            |  |
| Drum / 85 gallon   | 1.3         |              |           | Other Inorganic Materials    | 0.18                          | Np-237     | 4.96E-07                            |  |
|  |             |              |           | Cellulosics                  | 0.18                          | Pu-238     | 7.23E-03                            |  |
| As-Generated To  | <b>71.6</b> | 68.6         | 140.2     | Rubber                       | 0.18                          | Pu-239     | 8.43E-02                            |  |
| Final Form Volumes   |             |              |           | Plastics                     | 0.20                          | Pu-240     | 1.99E-06                            |  |
| ContainerType  | Stored      | Proj.        | Total     | Solidified, Inorganic Matrix | 723.21                        | Pu-241     | 1.97E-04                            |  |
| 55 Gallon Drum   | 70.3        |              |           | Cement (Solidified)          | 0.00                          | Pu-242     | 5.01E-10                            |  |
| Drum / 85-gallon   | 1.3         |              |           | Vitrified                    | 0.00                          | Th-229     | 4.07E-09                            |  |

#### **Waste Stream Description**

Cemented wastewater treatment sludge from room 60 pretreatment of TA-55 liquid waste. Solidified aqueous waste and cemented sludge. The sludge is a residue from treatment and filtration operations involving aqueous liquid radioactive waste from TA-55, Building PF4. This treatment produces a thin sludge (approximately 25 percent solids) that is alkaline and is compatible with Portland cement. Final cemented waste monoliths are produced by mixing the waste in 55-gallon steel drums containing empirically determined quantities of sludge, Portland cement, vermiculite, and sodium silicate.

140.2

Final Form Total

71.6

68.6

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Soils

85.91

11.61

130.64

36.91

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Management Comments**

Former WS IDs: LAM002, LAM009, LAT002, LAT009

## Waste Stream ID: LA-TA-50-18

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID N/A Stream Name Cemented caustic liquid                    | ,         | ,            |           |                                |                               |                 | ory Date 9/30/200                   |
|--|-----------|--------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID TA-50-18 Handling CH Final W                             | aste Form | Solidified I | norganics | Waste Matrix Code S3100        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |              |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |              |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |              |           | Iron-Base Metal/Alloys         | 0.18                          | Am-241          | 1.09E-02                            |
| ContainerType  | Stored    | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.18                          | Np-237          | 1.08E-07                            |
| 55 Gallon Drum   | 92.4      | 0.0          |           | Other Metal/Alloys             | 0.18                          | Pu-238          | 2.10E-03                            |
| 83 Gallon Drum   | 2.5       | 0.0          |           | Other Inorganic Materials      | 0.18                          | Pu-239          | 3.02E-02                            |
| Drum / 85-gallon   | 3.5       | 0.0          | 3.5       | Cellulosics                    | 0.18                          | Pu-240          | 5.45E-08                            |
|  |           |              |           | Rubber                         | 0.18                          | Pu-241          | 1.28E-05                            |
| As-Generated Total   | 98.4      | 0.0          | 98.4      | Plastics                       | 0.22                          | Pu-242          | 1.64E-11                            |
| Final Form Volumes   |           |              |           | Solidified, Inorganic Matrix   | 137.94                        | Th-229          | 5.87E-09                            |
| ContainerType  | Stored    | Proj.        | Total     | Cement (Solidified)            | 0.00                          | Th-230          | 2.82E-11                            |
| 55 Gallon Drum   | 92.4      | 0.0          | 92.4      | Vitrified                      | 0.00                          | Th-232          | 3.60E-23                            |
| 83 Gallon Drum   | 2.5       | 0.0          |           | Solidified, Organic Matrix     | 655.13                        | U-233           | 2.09E-06                            |
| Drum / 85-gallon   | 3.5       | 0.0          |           | Soils                          | 87.76                         | U-234           | 2.01E-07                            |
|  |           |              |           | Packaging Material, Steel      | 131.00                        | U-235           | 8.94E-10                            |
| Final Form Total   | 98.4      | 0.0          | 98.4      | Packaging Material, Plastic    | 37.00                         | U-236           | 4.85E-14                            |
|  |           |              |           | Packaging Material, Lead       | 0.00                          | U-238           | 7.42E-20                            |
|  |           |              |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

Solidified (through cementation) caustic aqueous waste from TA-55. The sludge is a residue from numerous treatment and filtration operations involving aqueous liquid radioactive waste.

## **Management Comments**

Former WS IDs: LAM002, LAM009

## Waste Stream ID: LA-TA-50-19

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | , ,  |       |          |                                |                               |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|------|-------|----------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors                                      |      |       |          | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A  Waste Volume Detail (m3) |      |       |          | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |      |       |          | Iron-Base Metal/Alloys         | 0.23                          | Am-241     | 2.89E-04                                |
| ContainerType Stor  | red  | Proj. | Total    | Aluminum-Base Metal/Alloys     | 0.19                          | Cs-137     | 3.09E-13                                |
| 7.  | 58.6 | 0.0   | 1158.6   | Other Metal/Alloys             | 0.18                          | Np-237     | 3.30E-09                                |
| Drum / 83 gallon  | 0.9  | 0.0   | 0.9      | Other Inorganic Materials      | 0.21                          | Pu-238     | 7.78E-05                                |
|   | 20.3 | 0.0   | 20.3     | Cellulosics                    | 0.48                          | Pu-239     | 3.35E-04                                |
| ·   |      | I     |          | Rubber                         | 0.34                          | Pu-240     | 3.89E-06                                |
| As-Generated Total 11   | 79.8 | 0.0   | 1179.8   | Plastics                       | 1.05                          | Pu-241     | 1.32E-05                                |
| Final Form Volumes  |      |       |          | Solidified, Inorganic Matrix   | 173.85                        | Pu-242     | 2.24E-10                                |
| ContainerType Stor  | red  | Proj. | Total    | Cement (Solidified)            | 0.00                          | Th-229     | 2.60E-16                                |
| · · · · · · · · · · · · · · · · · · ·                             | 58.6 | 0.0   | 1158.6   | Vitrified                      | 0.00                          | Th-230     | 7.37E-12                                |
| Drum / 83-gallon  | 0.9  | 0.0   | 0.9      | Solidified, Organic Matrix     | 339.60                        | Th-232     | 2.74E-21                                |
|   | 20.3 | 0.0   | 20.3     | Soils                          | 48.86                         | U-233      | 2.46E-13                                |
| <u> </u>  |      |       | <u>_</u> | Packaging Material, Steel      | 130.30                        | U-234      | 3.02E-08                                |
| Final Form Total 117  | 79.8 | 0.0   | 1179.8   | Packaging Material, Plastic    | 36.82                         | U-235      | 2.71E-09                                |
|   |      |       |          | Packaging Material, Lead       | 0.00                          | U-236      | 3.58E-12                                |
|   |      |       |          | Packaging Material, Steel Plug | 0.00                          | U-238      | 1.29E-11                                |

### **Waste Stream Description**

This waste is a dewatered sludge generated by the vacuum filtration of solids from treated aqueous waste slurry. The filter medium (diatomaceous earth) with the entrapped filtrate is then placed in drums with dry concrete absorbent

## **Management Comments**

Former WS IDs: LAM003, LAM009, LAT003, LAT009, also containers not previously associated with an identified BIR WS

37.00

0.00

0.00

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

# Waste Stream ID: LA-TA-50-20 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Plutonium contaminated s                   | soil (non-mi  | xed)  |       |                                 |                               | Invent     | ory Date 9/30/2002                  |
|--|---|-------|-------|---------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-50-20 Handling CH Final Wa                           | ste Form Soils Waste Matrix Code S4100 Activity Con |       |       | ncentrations Decayed to CY 2002 |                               |            |                                     |
| Final Waste Form Descriptors                                     |   |       |       | Waste Material Parameters       |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |   |       |       | Material Parameter              | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |   |       |       | Iron-Base Metal/Alloys          | 0.00                          | Am-241     | 1.50E-02                            |
| ContainerType  | Stored  | Proj. | Total | Aluminum-Base Metal/Alloys      | 0.00                          | Np-237     | 1.19E-07                            |
| Drum / 55 gallon   | 0.6   | 0.0   |       | Other Metal/Alloys              | 0.00                          | Pu-239     | 1.56E-02                            |
| 33 g   |   |       |       | Other Inorganic Materials       | 0.00                          | Th-229     | 4.69E-15                            |
| As-Generated Total   | 0.6   | 0.0   | 0.6   | Cellulosics                     | 0.00                          | U-233      | 6.24E-12                            |
| Final Form Volumes   |   |       |       | Rubber                          | 0.00                          | U-235      | 3.70E-10                            |
| ContainerType  | Stored  | Proj. | Total | Plastics                        | 0.00                          |            |                                     |
| 55 Gallon Drum   | 0.6   | 0.0   | 0.6   | Solidified, Inorganic Matrix    | 0.00                          |            |                                     |
| 00 00.00.00.00.00.00.00.00.00.00.00.00.0                         | 0.0   | 0.0   | 0.0   | Cement (Solidified)             | 0.00                          |            |                                     |
| Final Form Total   | 0.6   | 0.0   | 0.6   | Vitrified                       | 0.00                          |            |                                     |
|  |   |       |       | Solidified, Organic Matrix      | 0.00                          |            |                                     |
|  |   |       |       | Soils                           | 1200.00                       |            |                                     |
|  |   |       |       | Packaging Material, Steel       | 131.00                        |            |                                     |

### **Waste Stream Description**

Soils contaminated with transuranic material as a result of facility and equipment operations and maintenance.

## **Management Comments**

Former WS IDs: LAT008

#### Waste Stream ID: LA-TA-50-40

## Appendix J TOU WASTE BASELINE INVENTORY WASTE DOCEILE

|          |                   |                     | TRU WASTE BASELINE INVENTO            | KT WASTE PROFILE          |                    |                  |                       |  |  |  |
|----------|-------------------|---------------------|---------------------------------------|---------------------------|--------------------|------------------|-----------------------|--|--|--|
| HQ ID    | • , , ,           |                     |                                       |                           |                    |                  |                       |  |  |  |
| Local ID | TA-50-40          | Handling CH         | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5400   | Activity Co        | ncentrations Dec | cayed to CY 2002      |  |  |  |
|          | ste Form Descrip  |                     |                                       | Waste Material Parameters |                    | Final Form I     | Radionuclides         |  |  |  |
| Categ    | ory: Defense TF   | RU Waste Source: N/ | A                                     |                           | Average<br>Density |                  | Typical Concentration |  |  |  |
| Waste Vo | olume Detail (m3) | )                   |                                       | Material Parameter        | (kg/m3)            | Isotope          | (Ci/m3)               |  |  |  |
| As-Go    | norated Valumes   |                     |                                       | Iron-Base Metal/Alloys    | 263.87             | Am-241           | 1.45E-04              |  |  |  |

| ContainerType      |                    | Stored | Proj. | Total |
|--------------------|--------------------|--------|-------|-------|
| Crate              |                    | 0.6    | 0.0   | 0.6   |
| Crate/Pit          |                    | 15.3   | 0.0   | 15.3  |
|                    | As-Generated Total | 15.9   | 0.0   | 15.9  |
| Final Form Volumes |                    |        |       |       |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 5'x5'x8' Box       | 22.    | 6 0.0 | 22.6  |
| Standard Waste Box | 1.     | 9 0.0 | 1.9   |
|                    |        |       |       |

| Final Form Total | 24.5 | 0.0 | 24.5 |
|------------------|------|-----|------|
|------------------|------|-----|------|

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 263.87                        |
| Aluminum-Base Metal/Alloys     | 0.23                          |
| Other Metal/Alloys             | 23.62                         |
| Other Inorganic Materials      | 6.80                          |
| Cellulosics                    | 63.98                         |
| Rubber                         | 1.10                          |
| Plastics                       | 5.26                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.09                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Np-237 6.76E-10 Pu-238 5.06E-05 Pu-239 4.34E-04 Pu-240 2.02E-04 Pu-241 2.04E-03 Pu-242 6.71E-08 Th-229 1.52E-17 Th-230 4.23E-13 Th-232 8.55E-20 U-233 2.57E-14 U-234 3.80E-09 U-235 1.03E-11 U-236 1.44E-10

U-238

2.43E-16

### **Waste Stream Description**

The waste mostly consists of metals or metal equipment, such as motors, pumps, tools, and process equipment, either whole or sectioned, and lesser amounts of combustible components. The waste also includes mixed metal scrap and incidental combustible waste generated from size reduction of equipment from various TAs throughout LANL. In addition, it contains small volumes of combustibles generated during decommissioning, sectioning, and packaging.

#### **Management Comments**

Former WS IDs: LAM001, LAM009, LAT004

#### Waste Stream ID: LA-TA-50-41

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A               |             | y Date 9/30/2002                      |                           |                    |                   |                          |
|----------|-------------------|-------------|---------------------------------------|---------------------------|--------------------|-------------------|--------------------------|
| Local ID | TA-50-41          | Handling CH | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5400   | Activity Co        | oncentrations Dec | ayed to CY 2002          |
|          | ste Form Descrip  |             |                                       | Waste Material Parameters | Average            | Final Form R      | adionuclides Typical     |
|          | olume Detail (m3) |             |                                       | Material Parameter        | Density<br>(kg/m3) | Isotope           | Concentration<br>(Ci/m3) |
| As-Ger   | nerated Volumes   | i           |                                       | Iron-Base Metal/Alloys    | 272.60             | Am-241            | 7.12E-05                 |

Total

34.3

|                    |        |       | 34.3  |
|--------------------|--------|-------|-------|
| Final Form Volumes |        |       |       |
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 35.9   | 0.0   | 35.9  |

|                  |        |       |       | Cellulosics       |
|------------------|--------|-------|-------|-------------------|
|                  |        |       |       | Rubber            |
|                  | Stored | Proj. | Total | Plastics          |
|                  | 35.9   | 0.0   | 35.9  | Solidified, Inorg |
|                  |        |       |       | Cement (Solidifi  |
| Final Form Total | 35.9   | 0.0   | 35.9  | Vitrified         |

Proj.

0.0

Stored

34.3

#### Aluminum-Base Metal/Alloys 0.00 Other Metal/Alloys 30.30 Other Inorganic Materials 6.80 Cellulosics 64.00 1.10 5.30 0.00 ganic Matrix fied) 0.00 0.00 Vitrified Solidified, Organic Matrix 0.00 Soils 0.00 Packaging Material, Steel 154.00 1.20 Packaging Material, Plastic Packaging Material, Lead 0.00 0.00 Packaging Material, Steel Plug

#### Np-237 1.67E-10 Pu-238 3.47E-05 Pu-239 1.31E-03 3.07E-04 Pu-240 Pu-241 2.48E-03 Pu-242 1.77E-08 Th-229 1.03E-18 Th-230 8.02E-14

3.81E-20

3.29E-15

1.35E-09

1.68E-11

1.19E-10

3.47E-17

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

ContainerType

FRP Box

This waste mostly consists of metals or metal equipment, such as motors, pumps, tools, and process equipment, either whole or sectioned, and lesser amounts of combustible components. The waste also includes metal scrap and incidental combustible waste generated from size reduction of equipment from various TAs throughout LANL. In addition, it contains small volumes of combustibles generated during decommissioning, sectioning, and packaging.

## **Management Comments**

Former WS IDs: LAT009

Waste Stream ID: LA-TA-55-19

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | TAOIL L   | AOLLII    | <u> </u> | TORT WASTET ROTTEE             |                               |            |                                     |
|--|-----------|-----------|----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID N/A Stream Name Combustible debris waste                   | e (mixed) |           |          |                                |                               | Invent     | ory Date 9/30/2002                  |
|  | ste Form  | Combustib | ole      | Waste Matrix Code S5300        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |           |          | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |           |          | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |          | Iron-Base Metal/Alloys         | 7.72                          | Am-241     | 2.16E-03                            |
| ContainerType  | Stored    | Proj.     | Total    | Aluminum-Base Metal/Alloys     | 0.38                          | Am-243     | 1.88E-12                            |
| 55 Gallon Drum   | 875.9     | _         |          | Other Metal/Alloys             | 1.12                          | Np-237     | 1.68E-08                            |
| 55 Gallon Drum/Pit   | 45.6      |           |          | Other Inorganic Materials      | 2.01                          | Pu-238     | 5.10E-04                            |
| Drum / 85-gallon   | 3.9       | 0.0       | 3.9      | Cellulosics                    | 30.45                         | Pu-239     | 8.13E-03                            |
| Standard Waste Box   | 1.9       |           |          | Rubber                         | 6.20                          | Pu-240     | 2.31E-03                            |
|  |           |           |          | Plastics                       | 42.63                         | Pu-241     | 1.55E-02                            |
| As-Generated Total   | 927.2     | 1098.2    | 2025.4   | Solidified, Inorganic Matrix   | 0.77                          | Pu-242     | 7.02E-06                            |
| Final Form Volumes   |           |           |          | Cement (Solidified)            | 0.00                          | Pu-244     | 8.30E-12                            |
| ContainerType  | Stored    | Proj.     | Total    | Vitrified                      | 0.00                          | Th-229     | 1.74E-10                            |
| 55 Gallon Drum   | 875.9     | •         |          | Solidified, Organic Matrix     | 0.65                          | Th-230     | 1.07E-10                            |
| 55 Gallon Drum/Pit   | 45.6      | 0.0       |          | Soils                          | 0.60                          | Th-232     | 3.37E-18                            |
| Drum / 85-gallon   | 3.9       |           |          | Packaging Material, Steel      | 130.95                        | U-233      | 7.72E-08                            |
| Standard Waste Box   | 1.9       |           |          | Packaging Material, Plastic    | 36.95                         | U-234      | 5.14E-07                            |
| [  |           |           |          | Packaging Material, Lead       | 0.00                          | U-235      | 1.97E-08                            |
| Final Form Total   | 927.2     | 1098.2    | 2025.4   | Packaging Material, Steel Plug | 0.00                          | U-236      | 3.66E-09                            |
|  |           |           |          |                                | -                             | 11 238     | 9.475.00                            |

#### **Waste Stream Description**

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

#### **Management Comments**

Former WS IDs: LAM001, LAM004, LAM005, LAM009, LAT001, LAT004, LAT005, LAT009, also containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-20

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A              | Stream Name | Combustibl | e debris waste | (non-mixe | ed)       |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|----------|------------------|-------------|------------|----------------|-----------|-----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID | TA-55-20         | Handling    | СН         | Final Wa       | ste Form  | Combustib | le    | Waste Matrix Code S5300      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Wa | ste Form Descrip | otors       |            |                |           |           |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Categ    | pory: Defense Ti |             | urce: N/A  |                |           |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes  | <b>.</b>    |            |                |           |           |       | Iron-Base Metal/Alloys       | 6.37                          | Am-241     | 1.54E-01                            |
|          | inerType         | •           |            |                | Stored    | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.18                          | Np-237     | 2.77E-05                            |
|          | / 55 gallon      |             |            |                | 7.5       | 295.2     |       | Other Metal/Alloys           | 0.38                          | Pu-238     | 2.98E-02                            |
|          | J                |             |            |                | l         |           |       | Other Inorganic Materials    | 2.75                          | Pu-239     | 1.01E+00                            |
|          |                  |             | As-Ger     | erated Total   | 7.5       | 295.2     | 302.6 | Cellulosics                  | 18.97                         | Pu-240     | 2.45E-01                            |
| Final F  | Form Volumes     |             |            |                |           |           |       | Rubber                       | 0.89                          | Pu-241     | 2.01E+00                            |
|          | inerType         |             |            |                | Stored    | Proj.     | Total | Plastics                     | 78.42                         | Pu-242     | 1.82E-05                            |
|          | llon Drum        |             |            |                | 7.5       | 295.2     |       | Solidified, Inorganic Matrix | 0.18                          | Th-229     | 1.09E-12                            |
|          |                  |             |            |                |           |           |       | Cement (Solidified)          | 0.00                          | Th-230     | 1.89E-08                            |
|          |                  |             | Fina       | I Form Total   | 7.5       | 295.2     | 302.6 | Vitrified                    | 0.00                          | Th-232     | 5.96E-16                            |
|          |                  |             |            |                |           |           |       | Solidified, Organic Matrix   | 0.18                          | U-233      | 1.66E-09                            |
|          |                  |             |            |                |           |           |       | Soils                        | 0.87                          | U-234      | 1.51E-04                            |
|          |                  |             |            |                |           |           |       | Packaging Material, Steel    | 131.00                        | U-235      | 5.73E-06                            |
|          |                  |             |            |                |           |           |       | Packaging Material, Plastic  | 37.00                         | U-236      | 9.13E-07                            |
|          |                  |             |            |                |           |           |       | Packaging Material, Lead     | 0.00                          | U-238      | 6.46E-07                            |

### **Waste Stream Description**

Combustible waste generated from facility and equipment operations and maintenance. This waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and plastic-based and cellulose-based waste generated at the facility. Plastic-based waste includes, but may not be limited to, tape, polyethylene and vinyl; gloves; plastic vials; polystyrene; Tygon tubing; polyvinyl chloride plastic; Teflon products; Plexiglas; and dry box gloves (unleaded neoprene base). Cellulose-based waste includes, but may not be limited to, rags, wood, paper, cardboard, laboratory coats and coveralls, booties and cotton gloves, and similar materials. The waste stream may also contain a smaller fraction of non-combustible solids (e.g., scrap metal, crucibles, metal lids, zippers, discarded tools) and a small fraction of homogenous solids, salts, leached solids, ash, hydroxide cakes, crucibles, impure oxides.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Former WS IDs: LAM004, LAT004, LAT005

#### Appendix J Waste Stream ID: LA-TA-55-21 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A                       | Stream Name Metal of | debris waste (mixed)           |        |                           |                    |        |                | y Date 9/30/2002         |
|----------|---------------------------|----------------------|--------------------------------|--------|---------------------------|--------------------|--------|----------------|--------------------------|
| Local ID | TA-55-21                  | Handling CH          | Final Waste Form Heterogeneous | Debris | Waste Matrix Code S5110   | Activity           | Concen | ntrations Deca | ayed to CY 2002          |
|          | ste Fo <u>rm Descri</u> p |                      |                                |        | Waste Material Parameters |                    | _      | Final Form R   | adionuclides             |
| Categ    | ory: Defense TF           | RU Waste Source:     | N/A                            |        |                           | Average            |        |                | Typical                  |
| Waste Vo | olume Detail (m3)         | )                    |                                |        | Material Parameter        | Density<br>(kg/m3) |        | Isotope        | Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes           |                      |                                |        | Iron-Base Metal/Alloys    | 200.50             |        | Am-241         | 9.03E-03                 |

| 75 Generated Volumes |                |       |       |
|----------------------|----------------|-------|-------|
| ContainerType        | Stored         | Proj. | Total |
| Drum / 55 gallon     | 57.4           | 0.0   | 57.4  |
| Standard Waste Box   | 41.6           | 0.0   | 41.6  |
| As-Generated Total   | <b>al</b> 99.0 | 0.0   | 99.0  |
|                      |                |       |       |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 57.4   | 0.0   | 57.4  |
| Standard Waste Box | 41.6   | 0.0   | 41.6  |
|                    | <br>-  | -     |       |

|                  | 07.7 | 0.0 | 07.7 |
|------------------|------|-----|------|
|                  | 41.6 | 0.0 | 41.6 |
|                  |      |     |      |
| Final Form Total | 99.0 | 0.0 | 99.0 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 200.50                        |
| Aluminum-Base Metal/Alloys     | 0.18                          |
| Other Metal/Alloys             | 7.18                          |
| Other Inorganic Materials      | 0.85                          |
| Cellulosics                    | 1.00                          |
| Rubber                         | 0.32                          |
| Plastics                       | 5.87                          |
| Solidified, Inorganic Matrix   | 0.86                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.18                          |
| Soils                          | 0.56                          |
| Packaging Material, Steel      | 140.66                        |
| Packaging Material, Plastic    | 21.96                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Am-241 9.03E-03 Am-243 4.74E-07 Cm-244 2.29E-05 Np-237 3.86E-08 Pu-238 2.19E-03 4.57E-02 Pu-239 Pu-240 1.10E-02 Pu-241 1.05E-01 Pu-242 2.14E-05

1.84E-11

5.06E-16

4.28E-12

1.16E-18

1.17E-12

7.81E-08

5.53E-08

3.92E-09

7.30E-10

Pu-244

Th-229

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

Noncombustible waste including small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, and pipes. May also contain some glass, ceramic, porcelain, etc. as well as some small fraction of combustible waste (e.g., paper, rubber, plastics).

#### **Management Comments**

Former WS IDs: LAM005, LAT004, LAT005, also containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-22 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| 110 117(8)   | Brozenie nivenier                              |                    |                |                          |
|--|--|--------------------|----------------|--------------------------|
| HQ ID N/A Stream Name Metal debris waste (non-mixed) |  |                    | Invento        | ry Date 9/30/2002        |
| Local ID TA-55-22 Handling CH Final Waste Form       | n Heterogeneous Debris Waste Matrix Code S5110 | Activity Conc      | entrations Dec | cayed to CY 2002         |
| Final Waste Form Descriptors                         | Waste Material Parameters                      |                    | Final Form F   | Radionuclides            |
| Category: Defense TRU Waste Source: N/A              |  | Average<br>Density |                | Typical<br>Concentration |
| Waste Volume Detail (m3)                             | Material Parameter                             | (kg/m3)            | Isotope        | (Ci/m3)                  |
| As-Generated Volumes                                 | Iron-Base Metal/Alloys                         | 165.00             | Am-241         | 1.64E-01                 |

Total

10.4

0.7

| Standard Waste Box |                    | 1.9    | 0.0   | 1.9   |
|--------------------|--------------------|--------|-------|-------|
|                    | As-Generated Total | 13.0   | 0.0   | 13.0  |
| Final Form Volumes |                    |        |       |       |
| ContainerType      |                    | Stored | Proj. | Total |

|                  | 10.4 | 0.0 | 10.4 |
|------------------|------|-----|------|
|                  | 3.8  | 0.0 | 3.8  |
| _                |      |     |      |
| Final Form Total | 14.2 | 0.0 | 14.2 |

Stored

10.4

0.7

Proj.

0.0

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 165.00                        |
| Aluminum-Base Metal/Alloys     | 0.20                          |
| Other Metal/Alloys             | 4.50                          |
| Other Inorganic Materials      | 0.40                          |
| Cellulosics                    | 0.40                          |
| Rubber                         | 0.80                          |
| Plastics                       | 3.00                          |
| Solidified, Inorganic Matrix   | 0.10                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.70                          |
| Soils                          | 0.10                          |
| Packaging Material, Steel      | 137.13                        |
| Packaging Material, Plastic    | 27.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form I | Final Form Radionuclides            |  |  |  |  |
|--------------|-------------------------------------|--|--|--|--|
| Isotope      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241       | 1.64E-01                            |  |  |  |  |
| Np-237       | 1.64E-05                            |  |  |  |  |
| Pu-238       | 8.61E-02                            |  |  |  |  |
| Pu-239       | 1.12E+00                            |  |  |  |  |
| Pu-240       | 2.64E-01                            |  |  |  |  |
| Pu-241       | 2.27E+00                            |  |  |  |  |
| Pu-242       | 2.02E-05                            |  |  |  |  |
| Pu-244       | 5.46E-12                            |  |  |  |  |
| Th-229       | 4.68E-13                            |  |  |  |  |
| Th-230       | 1.69E-10                            |  |  |  |  |
| Th-232       | 2.78E-17                            |  |  |  |  |
| U-233        | 8.37E-10                            |  |  |  |  |
| U-234        | 3.08E-06                            |  |  |  |  |
| U-235        | 1.33E-08                            |  |  |  |  |
| U-236        | 9.38E-08                            |  |  |  |  |
| U-238        | 3.66E-14                            |  |  |  |  |

### **Waste Stream Description**

ContainerType

Drum / 55 gallon

55 Gallon Drum

Standard Waste Box

Other

Noncombustible waste including small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, and pipes. May also contain some glass, ceramic, porcelain, etc. as well as some small fraction of combustible waste (e.g., paper, rubber, plastics).

### **Management Comments**

Former WS IDs: LAM005, LAT005

Waste Stream ID: LA-TA-55-23

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Glass debris waste from F                  | PF-4 (mixed | d)        |             |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|-------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-55-23 Handling CH Final Wa                           | ste Form    | Heterogen | eous Debris | Waste Matrix Code S5120      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |             | Iron-Base Metal/Alloys       | 4.52                          | Am-241     | 1.72E-01                            |
| ContainerType  | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.71                          | Np-237     | 5.21E-07                            |
| Drum / 55 gallon   | 12.5        | •         |             | Other Metal/Alloys           | 0.62                          | Pu-238     | 8.14E-02                            |
| 2.4 00 340   |             |           |             | Other Inorganic Materials    | 93.79                         | Pu-239     | 8.76E-01                            |
| As-Generated Total   | 12.5        | 0.0       | 12.5        | Cellulosics                  | 1.29                          | Pu-240     | 2.17E-01                            |
| Final Form Volumes   |             |           |             | Rubber                       | 0.44                          | Pu-241     | 2.54E+00                            |
| ContainerType  | Stored      | Proj.     | Total       | Plastics                     | 7.66                          | Pu-242     | 1.36E-03                            |
| 55 Gallon Drum   | 12.5        |           |             | Solidified, Inorganic Matrix | 1.55                          | Pu-244     | 1.54E-09                            |
|  |             |           |             | Cement (Solidified)          | 0.00                          | Th-229     | 3.83E-15                            |
| Final Form Total   | 12.5        | 0.0       | 12.5        | Vitrified                    | 0.00                          | Th-230     | 1.33E-10                            |
|  |             |           |             | Solidified, Organic Matrix   | 1.52                          | Th-232     | 1.92E-17                            |
|  |             |           |             | Soils                        | 2.44                          | U-233      | 1.16E-11                            |
|  |             |           |             | Packaging Material, Steel    | 131.00                        | U-234      | 2.66E-06                            |
|  |             |           |             | Packaging Material, Plastic  | 37.00                         | U-235      | 7.14E-06                            |

#### **Waste Stream Description**

Glass waste generated from facility and equipment operations and maintenance. This waste includes, but is not limited to, broken glass discarded labware, windows, and bottles. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-236

U-238

7.07E-08

7.78E-07

## **Management Comments**

Former WS IDs: LAM005, LAT005, also containes containers not previously associated with an identified BIR WS

Waste Stream ID: LA-TA-55-24

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Glass debris waste from F                  | PF-4 (non-r | mixed)    |             |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|-------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-55-24 Handling CH Final Wa                           | ste Form    | leterogen | eous Debris | Waste Matrix Code S5120      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |             | Iron-Base Metal/Alloys       | 0.21                          | Am-241     | 5.59E-01                            |
| ContainerType  | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.18                          | Np-237     | 9.68E-07                            |
| Drum / 55 gallon   | 1.2         |           |             | Other Metal/Alloys           | 0.18                          | Pu-238     | 1.28E-01                            |
|  |             |           |             | Other Inorganic Materials    | 106.29                        | Pu-239     | 4.59E+00                            |
| As-Generated Total   | 1.2         | 0.0       | 1.2         | Cellulosics                  | 0.18                          | Pu-240     | 1.07E+00                            |
| Final Form Volumes   |             |           |             | Rubber                       | 0.18                          | Pu-241     | 1.21E+01                            |
| ContainerType  | Stored      | Proj.     | Total       | Plastics                     | 3.34                          | Pu-242     | 6.17E-05                            |
| 55 Gallon Drum   | 1.2         | 0.0       |             | Solidified, Inorganic Matrix | 0.18                          | Th-229     | 2.18E-15                            |
|  | l           |           |             | Cement (Solidified)          | 0.00                          | Th-230     | 6.08E-11                            |
| Final Form Total   | 1.2         | 0.0       | 1.2         | Vitrified                    | 0.00                          | Th-232     | 2.83E-17                            |
|  |             |           |             | Solidified, Organic Matrix   | 0.18                          | U-233      | 1.19E-11                            |
|  |             |           |             | Soils                        | 0.18                          | U-234      | 2.24E-06                            |
|  |             |           |             | Packaging Material, Steel    | 131.00                        | U-235      | 2.71E-08                            |
|  |             |           |             | Packaging Material, Plastic  | 37.00                         | U-236      | 1.91E-07                            |

#### **Waste Stream Description**

Glass waste generated from facility and equipment operations and maintenance. This waste includes, but is not limited to, broken glass discarded labware, windows, and bottles. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

5.59E-14

### **Management Comments**

Former WS IDs: LAT005, also containes containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-25 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name | HEPA filter debris (mixed) Inventory Date | 9/30/2002 |
Local ID TA-55-25 Handling CH Final Waste Form | Filter Waste Matrix Code | S5410 | Activity Concentrations Decayed to CY | 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 3.7    | 0.0   | 3.7   |
| Standard Waste Box   | 18.9   | 0.0   | 18.9  |
| As-Generated Total   | 22.6   | 0.0   | 22.6  |

| Stored | Proj. | Total   |
|--------|-------|---------|
| 3.7    | 0.0   | 3.7     |
| 18.9   | 0.0   | 18.9    |
|        | 3.7   | 3.7 0.0 |

**Final Form Total** 22.6 0.0 22.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 14.79                         |
| Aluminum-Base Metal/Alloys     | 0.18                          |
| Other Metal/Alloys             | 0.18                          |
| Other Inorganic Materials      | 0.18                          |
| Cellulosics                    | 4.09                          |
| Rubber                         | 0.18                          |
| Plastics                       | 3.57                          |
| Solidified, Inorganic Matrix   | 0.18                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.18                          |
| Soils                          | 0.18                          |
| Packaging Material, Steel      | 150.20                        |
| Packaging Material, Plastic    | 7.12                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.58E-01                            |
| Np-237  | 2.73E-07                            |
| Pu-238  | 4.12E-02                            |
| Pu-239  | 1.25E+00                            |
| Pu-240  | 2.95E-01                            |
| Pu-241  | 3.41E+00                            |
| Pu-242  | 1.34E-04                            |
| Th-229  | 6.15E-16                            |
| Th-230  | 1.95E-11                            |
| Th-232  | 7.77E-18                            |
| U-233   | 3.36E-12                            |
| U-234   | 7.19E-07                            |
| U-235   | 1.43E-06                            |
| U-236   | 5.24E-08                            |
| U-238   | 1.41E-08                            |

#### **Waste Stream Description**

HEPA filters generated from facility and equipment operations and Maintenance.

#### **Management Comments**

Former WS IDs: LAT005, also containes containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-28

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Leaded glove debris (mixe                  | ed       |           |            |                                |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|-----------|------------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-55-28 Handling CH Final Wa                           | ste Form | ₋ead/Cadn | nium Metal | Waste Matrix Code S5311        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |           |            | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |           |            | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |           |            | Iron-Base Metal/Alloys         | 257.70                        | Am-241     | 3.36E-01                            |
| ContainerType  | Stored   | Proj.     | Total      | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 6.71E-07                            |
| Drum / 55 gallon   | 3.7      | 0.0       | 3.7        | Other Metal/Alloys             | 302.90                        | Pu-238     | 1.38E-01                            |
|  |          |           |            | Other Inorganic Materials      | 6.80                          | Pu-239     | 2.33E+00                            |
| As-Generated Total   | 3.7      | 0.0       | 3.7        | Cellulosics                    | 0.00                          | Pu-240     | 5.54E-01                            |
| Final Form Volumes   |          |           |            | Rubber                         | 0.00                          | Pu-241     | 6.71E+00                            |
| ContainerType  | Stored   | Proj.     | Total      | Plastics                       | 0.00                          | Pu-242     | 2.82E-03                            |
| 55 Gallon Drum   | 3.7      | 0.0       |            | Solidified, Inorganic Matrix   | 0.00                          | Pu-244     | 1.84E-09                            |
|  |          |           |            | Cement (Solidified)            | 0.00                          | Th-229     | 2.04E-15                            |
| Final Form Total   | 3.7      | 0.0       | 3.7        | Vitrified                      | 0.00                          | Th-230     | 8.95E-11                            |
|  |          |           |            | Solidified, Organic Matrix     | 0.00                          | Th-232     | 1.99E-17                            |
|  |          |           |            | Soils                          | 0.00                          | U-233      | 9.59E-12                            |
|  |          |           |            | Packaging Material, Steel      | 131.00                        | U-234      | 2.82E-06                            |
|  |          |           |            | Packaging Material, Plastic    | 37.00                         | U-235      | 1.65E-06                            |
|  |          |           |            | Packaging Material, Lead       | 0.00                          | U-236      | 1.15E-07                            |
|  |          |           |            | Packaging Material, Steel Plug | 0.00                          | U-238      | 2.56E-09                            |

## **Waste Stream Description**

Leaded gloves generated from facility and equipment operations and maintenance.

## **Management Comments**

Former WS IDs: LAM005, LAT005, also containes containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-30 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Non-combustible and combustible debris waste (mixed)

Local ID TA-55-30 Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

### Waste Volume Detail (m3)

| Stored | Proj.                          | Total  |
|--------|--------------------------------|--|
| 1029.2 | 988.4                          | 2017.6   |
| 27.0   | 0.0                            | 27.0   |
| 14.6   | 0.0                            | 14.6   |
| 38.9   | 0.0                            | 38.9   |
| 30.2   | 0.0                            | 30.2   |
|        | 1029.2<br>27.0<br>14.6<br>38.9 | 1029.2 988.4<br>27.0 0.0<br>14.6 0.0<br>38.9 0.0 |

| As-Generated Total | 1140.0 | 988.4 | 2128.4 |
|--------------------|--------|-------|--------|
|--------------------|--------|-------|--------|

| Final Form Volumes |     |      |       |        |
|--------------------|-----|------|-------|--------|
| ContainerType      | Sto | red  | Proj. | Total  |
| 55 Gallon Drum     | 10  | 0.88 | 988.4 | 2076.5 |
| 85 Gallon Drum     |     | 27.0 | 0.0   | 27.0   |
| Standard Waste Box | 1   | 13.4 | 0.0   | 113.4  |
|                    |     |      |       |        |

| Final Form Total | 1228.5 | 988.4 | 2216.9 |
|------------------|--------|-------|--------|

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 259.90                        |
| Aluminum-Base Metal/Alloys     | 0.15                          |
| Other Metal/Alloys             | 113.81                        |
| Other Inorganic Materials      | 7.09                          |
| Cellulosics                    | 42.79                         |
| Rubber                         | 0.74                          |
| Plastics                       | 3.52                          |
| Solidified, Inorganic Matrix   | 3.54                          |
| Cement (Solidified)            | 4.07                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.70                        |
| Packaging Material, Plastic    | 35.05                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 1.24E-02                            |  |  |  |  |
| Am-243  | 2.77E-07                            |  |  |  |  |
| Cm-244  | 6.51E-09                            |  |  |  |  |
| Np-237  | 8.54E-08                            |  |  |  |  |
| Pu-238  | 1.87E-03                            |  |  |  |  |
| Pu-239  | 4.31E-02                            |  |  |  |  |
| Pu-240  | 1.05E-02                            |  |  |  |  |
| Pu-241  | 5.54E-02                            |  |  |  |  |
| Pu-242  | 9.91E-06                            |  |  |  |  |
| Pu-244  | 1.18E-11                            |  |  |  |  |
| Th-229  | 2.56E-10                            |  |  |  |  |
| Th-230  | 3.58E-11                            |  |  |  |  |
| Th-232  | 4.86E-18                            |  |  |  |  |
| U-233   | 1.14E-07                            |  |  |  |  |
| U-234   | 2.34E-07                            |  |  |  |  |
| U-235   | 4.52E-09                            |  |  |  |  |
| U-236   | 7.83E-09                            |  |  |  |  |
| U-238   | 3.65E-08                            |  |  |  |  |

#### **Waste Stream Description**

Non-combustible and combustible waste generated from facility and equipment operations and maintenance. This waste includes, but may not be limited to, small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, metal-based HEPA filters, pipes, glass, graphite, slag and crucibles, salt, discarded lab ware, windows, and bottles. The waste stream may also contain a smaller fraction of combustible solids (e.g., paper, rags, plastic, rubber, leaded gloves) and a small fraction of homogeneous solids (e.g., leached solids, ash, hydroxide cakes, impure oxides).

#### **Management Comments**

Former WS IDs: LAM001, LAM004, LAM005, LAM006, LAM009, LAT001, LAT004, LAT005, LAT006, LAT009, also containers not previously associated with an identified BIR WS

1.17E-13

9.96E-08

1.32E-15

1.73E-10

7.32E-04

7.61E-06

1.41E-06

6.23E-08

## Waste Stream ID: LA-TA-55-32 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| INOV  | VASILL | JAJELII | AL HAVEN  | TORT WASTE FROTIEL           |                               |            |   |
|---|--------|---------|-----------|------------------------------|-------------------------------|------------|---|
| HQ ID N/A Stream Name Homogeneous inorganics Local ID TA-55-32 Handling CH Final Wa | ` .    |         | norganics | Waste Matrix Code S3100      | Activity C                    |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |        |         |           | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)                    |        |         |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |        |         |           | Iron-Base Metal/Alloys       | 249.47                        | Am-241     | 6.37E-01                                |
| ContainerType   | Stored | Proj.   | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.84E-06                                |
| Drum / 55 gallon  | 4.8    |         | 4.8       | Other Metal/Alloys           | 293.22                        | Pu-238     | 7.23E+00                                |
|   |        |         |           | Other Inorganic Materials    | 7.97                          | Pu-239     | 2.37E+00                                |
| As-Generated Total  | 4.8    | 0.0     | 4.8       | Cellulosics                  | 0.00                          | Pu-240     | 7.35E-01                                |
| Final Form Volumes  |        |         |           | Rubber                       | 0.00                          | Pu-241     | 4.78E+00                                |
| ContainerType   | Stored | Proj.   | Total     | Plastics                     | 0.00                          | Pu-242     | 1.10E-03                                |
| 55 Gallon Drum  | 4.8    | •       |           | Solidified, Inorganic Matrix | 14.28                         | Pu-244     | 1.36E-09                                |

0.0

4.8

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

16.43

0.00

0.00

0.00

131.00

37.00

0.00

0.00

Th-229

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

Solidified inorganic process solids generated from facility and equipment operations and maintenance. This waste consists of large chunks of filter cakes and salts.

4.8

#### **Management Comments**

Former WS IDs: LAM005, LAM006, LAT005, LAT006, also containes containers not previously associated with an identified BIR WS

**Final Form Total** 

0.00

Packaging Material, Steel Plug

Waste Stream ID: LA-TA-55-33

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HO ID N/A Stream Name Absorbed organics from a                   | ll wings of | DE4 (miye | ad)   |                              |   |            | 0/20/2002                           |
|--|-------------|-----------|-------|------------------------------|---|------------|-------------------------------------|
|  |             |           |       | Waste Matrix Code S3200      | Inventory Date 9/30/2002<br>ncentrations Decayed to CY 2002 |            |                                     |
| Final Waste Form Descriptors                                     |             |           |       | Waste Material Parameters    |   | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |             |           |       | Material Parameter           | Average<br>Density<br>(kg/m3)                               | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |       | Iron-Base Metal/Alloys       | 254.29  | Am-241     | 6.96E-02                            |
| ContainerType  | Stored      | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.21  | Np-237     | 4.28E-07                            |
| Drum / 55 gallon   | 6.7         | 0.0       |       | Other Metal/Alloys           | 141.79  | Pu-238     | 1.34E-02                            |
| 214 700 gano   |             |           |       | Other Inorganic Materials    | 7.32  | Pu-239     | 2.24E-01                            |
| As-Generated Total   | 6.7         | 0.0       | 6.7   | Cellulosics                  | 35.37   | Pu-240     | 7.18E-02                            |
| Final Form Volumes   |             |           |       | Rubber                       | 0.61  | Pu-241     | 4.84E-01                            |
| ContainerType  | Stored      | Proj.     | Total | Plastics                     | 2.93  | Pu-242     | 1.12E-05                            |
| 55 Gallon Drum   | 6.7         | 0.0       |       | Solidified, Inorganic Matrix | 6.39  | Th-229     | 1.33E-14                            |
|  |             |           |       | Cement (Solidified)          | 7.35  | Th-230     | 1.02E-10                            |
| Final Form Total   | 6.7         | 0.0       | 6.7   | Vitrified                    | 0.00  | Th-232     | 2.79E-17                            |
|  |             |           |       | Solidified, Organic Matrix   | 0.00  | U-233      | 1.95E-11                            |
|  |             |           |       | Soils                        | 0.00  | U-234      | 9.59E-07                            |
|  |             |           |       | Packaging Material, Steel    | 131.00  | U-235      | 1.10E-06                            |
|  |             |           |       | Packaging Material, Plastic  | 37.00   | U-236      | 4.90E-08                            |
|  |             |           |       | Packaging Material Lead      | 0.00  | U-238      | 9 14F-08                            |

#### **Waste Stream Description**

Solidified Organics (absorbed organics on vermiculite) from all wings of PF4. Organic liquids (solvents and oils) generated from facility and equipment operations and maintenance and absorbed on vermiculite. Hazardous materials such as methylene chloride and carbon tetrachloride may be present but PCB's are NOT expected.

### **Management Comments**

Former WS IDs: LAT004, LAT005, LAT006, LAT009, also containers not previously associated with an identified BIR WS

# Waste Stream ID: LA-TA-55-34 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Uncemented inorganics (r                   | mixed)                                     |       |                         |                              |                                | Invent     | ory Date 9/30/200                   |
|--|--|-------|-------------------------|------------------------------|--------------------------------|------------|-------------------------------------|
| Local ID TA-55-34 Handling CH Final Wa                           | TA-55-34 Handling CH Final Waste Form Salt |       | Waste Matrix Code S3100 | oncentrations De             | ncentrations Decayed to CY 200 |            |                                     |
| Final Waste Form Descriptors                                     |  |       |                         | Waste Material Parameters    |                                | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |  |       |                         | Material Parameter           | Average<br>Density<br>(kg/m3)  | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |  |       |                         | Iron-Base Metal/Alloys       | 0.00                           | Am-241     | 1.67E-01                            |
| ContainerType  | Stored                                     | Proj. | Total                   | Aluminum-Base Metal/Alloys   | 0.00                           | Np-237     | 8.85E-07                            |
| Drum / 55 gallon   | 49.7                                       | 103.0 |                         | Other Metal/Alloys           | 0.00                           | Pu-238     | 3.08E-02                            |
| Drum / 83 gallon   | 1.3  | 0.0   |                         | Other Inorganic Materials    | 2320.00                        | Pu-239     | 8.62E-01                            |
|  |  |       |                         | Cellulosics                  | 0.00                           | Pu-240     | 2.20E-01                            |
| As-Generated Total   | 51.0                                       | 103.0 | 154.0                   | Rubber                       | 0.00                           | Pu-241     | 1.45E+00                            |
| Final Form Volumes   |  |       |                         | Plastics                     | 0.00                           | Pu-242     | 8.67E-05                            |
| ContainerType  | Stored                                     | Proj. | Total                   | Solidified, Inorganic Matrix | 0.00                           | Pu-244     | 9.04E-11                            |
| 55 Gallon Drum   | 49.7                                       | 103.0 |                         | Cement (Solidified)          | 0.00                           | Th-229     | 1.41E-08                            |
| Drum / 85-gallon   | 1.3  | 0.0   |                         | Vitrified                    | 0.00                           | Th-230     | 2.09E-09                            |
|  |  |       |                         | Solidified, Organic Matrix   | 0.00                           | Th-232     | 7.93E-17                            |
| Final Form Total   | 51.0                                       | 103.0 | 154.0                   | Soils                        | 0.00                           | U-233      | 7.50E-06                            |
|  |  |       |                         | Packaging Material, Steel    | 130.67                         | U-234      | 1.26E-05                            |
|  |  |       |                         | Packaging Material, Plastic  | 36.92                          | U-235      | 5.07E-07                            |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-236

U-238

1.46E-07

2.18E-05

## **Waste Stream Description**

Uncemented inorganics from all wings of PF4 including nitrate salts generated from TA-55 nitrate operations

## **Management Comments**

Former WS IDs: LAM005, LAT005, LAT009

LA-TA-55-38 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cemented inorganics (mi                    | xed)   | Solidified I | norganics | Waste Matrix Code S3100      | Activity Co                   |         | ory Date 9/30/200                   |
|--|--------|--------------|-----------|------------------------------|-------------------------------|---------|-------------------------------------|
| Final Waste Form Descriptors                                     |        |              |           | Waste Material Parameters    |                               |         | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |              |           | Iron-Base Metal/Alloys       | 212.31                        | Am-241  | 1.69E-01                            |
| ContainerType  | Stored | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.15                          | Am-243  | 3.91E-06                            |
| Drum / 55 gallon   | 401.2  |              |           | Other Metal/Alloys           | 135.78                        | Np-237  | 1.26E-06                            |
| Drum / 85 gallon   | 83.4   |              |           | Other Inorganic Materials    | 13.26                         | Pu-238  | 3.21E-03                            |
| Other  | 0.3    |              |           | Cellulosics                  | 25.61                         | Pu-239  | 6.02E-02                            |
| 0.10   |        | 0.0          | 0.0       | Rubber                       | 0.44                          | Pu-240  | 1.63E-02                            |
| As-Generated Total   | 484.9  | 171.6        | 656.6     | Plastics                     | 2.12                          | Pu-241  | 1.06E-01                            |
| Final Form Volumes   |        |              |           | Solidified, Inorganic Matrix | 80.15                         | Pu-242  | 2.04E-05                            |
| i mai i vim voidings   |        |              |           | Cement (Solidified)          | 80.06                         | Du-244  | 2 11⊑_11                            |

| ContainerType      |                  | Stored | Proj. | Total |
|--------------------|------------------|--------|-------|-------|
| 55 Gallon Drum     |                  | 401.2  | 171.6 | 572.8 |
| 85 Gallon Drum     |                  | 83.4   | 0.0   | 83.4  |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 486.5  | 171.6 | 658.1 |

| Material Parameter             | (kg/m3) |
|--------------------------------|---------|
| Iron-Base Metal/Alloys         | 212.31  |
| Aluminum-Base Metal/Alloys     | 0.15    |
| Other Metal/Alloys             | 135.78  |
| Other Inorganic Materials      | 13.26   |
| Cellulosics                    | 25.61   |
| Rubber                         | 0.44    |
| Plastics                       | 2.12    |
| Solidified, Inorganic Matrix   | 80.15   |
| Cement (Solidified)            | 89.96   |
| Vitrified                      | 0.00    |
| Solidified, Organic Matrix     | 0.00    |
| Soils                          | 0.00    |
| Packaging Material, Steel      | 126.12  |
| Packaging Material, Plastic    | 35.63   |
| Packaging Material, Lead       | 0.00    |
| Packaging Material, Steel Plug | 0.00    |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.69E-01                            |  |  |  |
| Am-243                   | 3.91E-06                            |  |  |  |
| Np-237                   | 1.26E-06                            |  |  |  |
| Pu-238                   | 3.21E-03                            |  |  |  |
| Pu-239                   | 6.02E-02                            |  |  |  |
| Pu-240                   | 1.63E-02                            |  |  |  |
| Pu-241                   | 1.06E-01                            |  |  |  |
| Pu-242                   | 2.04E-05                            |  |  |  |
| Pu-244                   | 2.11E-11                            |  |  |  |
| Th-229                   | 1.22E-09                            |  |  |  |
| Th-230                   | 4.38E-10                            |  |  |  |
| Th-232                   | 1.60E-09                            |  |  |  |
| U-233                    | 5.68E-07                            |  |  |  |
| U-234                    | 2.23E-06                            |  |  |  |
| U-235                    | 9.09E-08                            |  |  |  |
| U-236                    | 1.38E-08                            |  |  |  |
| U-238                    | 3.02E-06                            |  |  |  |
|                          |                                     |  |  |  |

## **Waste Stream Description**

Solidified inorganic process solids generated from facility and equipment operations and maintenance. This waste includes process leached solids, ash, filter cakes, salts, metal oxides, fines, evaporator bottoms, and sample residues (received from the CMR building) stabilized in Portland or gypsum cement.

## **Management Comments**

Former WS IDs: LAM005, LAM006, LAM009, LAT004, LAT005, LAT006, LAT009, also containers not previously associated with an identified BIR WS

U-236

U-238

1.75E-06

5.27E-13

37.00

0.00

0.00

## Waste Stream ID: LA-TA-55-39

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | IAUIL     | JAULLII | AL HAVEIAL | OKT WASTET KOTTEE            |                               |                 |                                     |
|--|-----------|---------|------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name Pyrochemical salts (mixed                  | <u>(k</u> |         |            |                              |                               | Invent          | ory Date 9/30/2002                  |
| Local ID TA-55-39 Handling CH Final Was                          | ste Form  | Salt    |            | Waste Matrix Code S3100      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |         |            | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |         |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |         |            | Iron-Base Metal/Alloys       | 257.70                        | Am-241          | 3.42E+00                            |
| ContainerType  | Stored    | Proj.   | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 9.50E-06                            |
| 55 Gallon Drum   | 2.9       |         |            | Other Metal/Alloys           | 302.90                        | Pu-238          | 6.89E-01                            |
|  |           |         |            | Other Inorganic Materials    | 6.80                          | Pu-239          | 2.61E+01                            |
| As-Generated Total   | 2.9       | 0.0     | 2.9        | Cellulosics                  | 0.00                          | Pu-240          | 5.91E+00                            |
| Final Form Volumes   |           |         |            | Rubber                       | 0.00                          | Pu-241          | 5.46E+01                            |
| ContainerType  | Stored    | Proj.   | Total      | Plastics                     | 0.00                          | Pu-242          | 3.49E-04                            |
| 55 Gallon Drum   | 2.9       | •       |            | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 5.81E-14                            |
| 00 00  |           |         |            | Cement (Solidified)          | 0.00                          | Th-230          | 9.27E-10                            |
| Final Form Total   | 2.9       | 0.0     | 2.9        | Vitrified                    | 0.00                          | Th-232          | 4.33E-16                            |
|  |           |         |            | Solidified, Organic Matrix   | 0.00                          | U-233           | 1.93E-10                            |
|  |           |         |            | Soils                        | 0.00                          | U-234           | 2.04E-05                            |
|  |           |         |            | Packaging Material, Steel    | 131.00                        | U-235           | 2.58E-07                            |

## **Waste Stream Description**

Pyrochemical salt waste consisting of used chloride salts from pyrochemical processes such as electrorefining, molten salt extraction, salt stripping, fluoride reduction, and direct oxide reduction. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

## **Management Comments**

Former WS IDs: LAM005, LAT005

3.40E-12

LA-TA-55-41 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Cemented organics (mixe                    | ed)    |       |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|--------|-------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
|  |        |       |       |                              |                               |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |        |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |       |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 8.26E+00                            |
| ContainerType  | Stored | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.49E-05                            |
| 55 Gallon Drum   | 8.3    |       | 22.0  | Other Metal/Alloys           | 0.00                          | Pu-238     | 9.53E-02                            |
| Drum / 85-gallon   | 4.2    |       |       | Other Inorganic Materials    | 43.30                         | Pu-239     | 2.16E+00                            |
|  |        |       |       | Cellulosics                  | 0.00                          | Pu-240     | 5.20E-01                            |
| As-Generated Total   | 12.5   | 13.7  | 26.2  | Rubber                       | 0.00                          | Pu-241     | 4.58E+00                            |
| Final Form Volumes   |        |       |       | Plastics                     | 0.00                          | Pu-242     | 1.73E-03                            |
| ContainerType  | Stored | Proj. | Total | Solidified, Inorganic Matrix | 453.40                        | Pu-244     | 2.21E-09                            |
| 55 Gallon Drum   | 8.3    | 13.7  | 22.0  | Cement (Solidified)          | 508.10                        | Th-229     | 3.99E-13                            |
| Drum / 85-gallon   | 6.4    | 0.0   |       | Vitrified                    | 0.00                          | Th-230     | 2.20E-10                            |
|  |        |       |       | Solidified, Organic Matrix   | 0.00                          | Th-232     | 6.43E-17                            |
| Final Form Total   | 14.8   | 13.7  | 28.5  | Soils                        | 0.00                          | U-233      | 9.81E-10                            |
|  |        |       |       | Packaging Material, Steel    | 131.00                        | U-234      | 3.70E-06                            |
|  |        |       |       | Packaging Material, Plastic  | 37.00                         | U-235      | 2.77E-08                            |
|  |        |       |       | Packaging Material, Lead     | 0.00                          | U-236      | 2.00E-07                            |

## **Waste Stream Description**

Solidified organic process solids and up to six liters of emulsified solvents and oils generated from facility and equipment operations and maintenance. This waste consists of process leached solids, filter cakes, or evaporator bottoms stabilized in Portland or gypsum cement.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

U-238

## **Management Comments**

Former WS IDs: LAM006, also containes containers not previously associated with an identified BIR WS

4.57E-09

4.58E-20

5.07E-14

1.12E-04

1.95E-11

2.06E-10

6.99E-16

Waste Stream ID: LA-TA-55-43

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   |                                    | 11.01                | .,       | ,, (O = = |       |                              |                               |                         |                                     |
|---|------------------------------------|----------------------|----------|-----------|-------|------------------------------|-------------------------------|-------------------------|-------------------------------------|
| HQ ID N/A Stream Name Combustible/noncombustible debris containing Pu-238 (non-mixed) |                                    |                      |          |           |       |                              | Invent                        | Inventory Date 9/30/200 |                                     |
| Local ID  | TA-55-43                           | Handling CH Final Wa | ste Form | Combustib | ole   | Waste Matrix Code S5400      | Activity C                    |                         | ecayed to CY 2002                   |
| Final Wa  | aste Form Descrip                  | tors                 |          |           |       | Waste Material Parameters    |                               | Final Form              | Radionuclides                       |
|   | gory: Defense TR olume Detail (m3) | U Waste Source: N/A  |          |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                 | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge   | enerated Volumes                   |                      |          |           |       | Iron-Base Metal/Alloys       | 92.64                         | Am-241                  | 1.20E-03                            |
| Conta   | ainerType                          |                      | Stored   | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.51                          | Np-237                  | 2.85E-09                            |
|   | / 55 gallon                        |                      | 64.9     | 0.0       |       | Other Metal/Alloys           | 0.21                          | Pu-238                  | 4.21E+00                            |
|   |                                    |                      |          |           |       | Other Inorganic Materials    | 0.34                          | Pu-239                  | 2.19E-03                            |
|   |                                    | As-Generated Total   | 64.9     | 0.0       | 64.9  | Cellulosics                  | 20.17                         | Pu-240                  | 7.71E-04                            |
| Final   | Form Volumes                       |                      |          |           |       | Rubber                       | 0.62                          | Pu-241                  | 2.71E-02                            |
|   | ainerType                          |                      | Stored   | Proj.     | Total | Plastics                     | 25.30                         | Pu-242                  | 5.15E-07                            |
|   | illon Drum                         |                      | 64.9     | 0.0       |       | Solidified, Inorganic Matrix | 0.67                          | Th-229                  | 1.36E-17                            |

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.18

0.18

131.00

37.00

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

Combustible/noncombustible debris including paper, rags, plastic, rubber, and plastic-based and cellulose-based waste generated during 238Pu activities. Plastic-based waste includes, but may not be limited to: tape, polyethylene and vinyl; gloves; plastic vials, polystyrene; tygon tubing; polyvinyl chloride plastic; Teflon products; plexiglass; and dry box gloves (unleaded neoprene base). Cellulosebased waste includes, but may not be limited to: rags, wood, paper, and cardboard; laboratory coats and overalls; booties and cotton gloves, and similar materials. The waste may also contain HEPA filters, noncombustible glass and metallic debris. Some of this waste was packaged in small metal cans before being placed in 55 Gallon drums.

64.9

0.0

## **Management Comments**

Former WS IDs: LAM005, LAT004, LAT005, also containes containers not previously associated with an identified BIR WS

**Final Form Total** 

64.9

## Waste Stream ID: LA-TA-55-44

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Q ID N/A Stream Name Combustible/noncombus                       |           | *         |       |                                | ory Date 9/30/2002            |                 |                                     |
|--|-----------|-----------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID TA-55-44 Handling CH Final Wa                            | aste Form | Combustib | ole   | Waste Matrix Code S5400        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |           |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |       | Iron-Base Metal/Alloys         | 12.10                         | Am-241          | 4.43E-03                            |
| ContainerType  | Stored    | Proj.     | Total | Aluminum-Base Metal/Alloys     | 1.30                          | Np-237          | 2.99E-08                            |
| Drum / 30 gallon   | 19.9      | 0.0       | 19.9  | Other Metal/Alloys             | 1.10                          | Pu-238          | 2.79E+00                            |
| Drum / 55 gallon   | 187.4     | 0.0       | 187.4 | Other Inorganic Materials      | 8.30                          | Pu-239          | 1.14E-02                            |
| Drum / 80 gallon   | 1.2       | 0.0       | 1.2   | Cellulosics                    | 9.60                          | Pu-240          | 3.18E-03                            |
| Drum / 85 gallon   | 3.5       | 0.0       | 3.5   | Rubber                         | 4.40                          | Pu-241          | 2.26E-02                            |
| Standard Waste Box   | 1.9       | 0.0       | 1.9   | Plastics                       | 17.70                         | Pu-242          | 9.94E-07                            |
|  |           |           |       | Solidified, Inorganic Matrix   | 2.70                          | Pu-244          | 2.10E-13                            |
| As-Generated Total   | 213.9     | 0.0       | 213.9 | Cement (Solidified)            | 0.00                          | Th-229          | 1.05E-15                            |
| Final Form Volumes   |           |           |       | Vitrified                      | 0.00                          | Th-230          | 2.33E-08                            |
| ContainerType  | Stored    | Proj.     | Total | Solidified, Organic Matrix     | 1.70                          | Th-232          | 1.61E-18                            |
| 55 Gallon Drum   | 187.4     | 0.0       | 187.4 | Soils                          | 2.10                          | U-233           | 1.46E-12                            |
| 55 Gallon Drum/Overpack 30 Gallon                                | 36.6      | 0.0       | 36.6  | Packaging Material, Steel      | 142.45                        | U-234           | 2.09E-04                            |
| 80-Gallon Drum   | 1.2       | 0.0       | 1.2   | Packaging Material, Plastic    | 36.50                         | U-235           | 3.21E-09                            |
| 85 Gallon Drum   | 3.5       | 0.0       | 3.5   | Packaging Material, Lead       | 0.00                          | U-236           | 2.49E-09                            |
| Standard Waste Box   | 1.9       | 0.0       | 1.9   | Packaging Material, Steel Plug | 0.00                          | U-238           | 6.83E-08                            |
| Waste Stream Description Final Form Total                        | 230.7     | 0.0       | 230.7 |                                |                               |                 |                                     |

Combustible/noncombustible debris: heat source fabrication, 238Pu from SRS. Combustible/noncombustible debris including paper, rags, plastic, rubber, and plastic-based and cellulose-based waste generated during 238Pu activities. Plastic-based waste includes, but may not be limited to: tape, polyethylene and vinyl; gloves; plastic vials, polystyrene; tygon tubing; polyvinyl chloride plastic; Teflon products; plexiglass; and dry box gloves (unleaded neoprene base). Cellulosebased waste includes, but may not be limited to: rags, wood, paper, and cardboard; laboratory coats and overalls; booties and cotton gloves, and similar materials. The waste may also contain noncombustible glass and metallic debris. Some of this waste was packaged in small metal cans before being placed in 55 Gallon drums. This waste stream may contain lead items, or items from process status code R8, PPD, TDC (which may be mixed waste items).

### **Management Comments**

Former WS IDs: LAM001, LAM004, LAM005, LAM006, LAM009, LAT001, LAT004, LAT005, LAT006, LAT009, also containers not previously associated with an identified BIR WS

# Waste Stream ID: LA-TA-55-48 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Oil and vermiculite waste containing 238Pu (mixed)

Local ID TA-55-48 Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3200 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| Drum / 55 gallon     | 0.8    | 13.7  | 14.6  |  |  |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |  |  |
| As-Generated Total   | 2.7    | 13.7  | 16.5  |  |  |

| Final Form Volumes |        |       |       |  |
|--------------------|--------|-------|-------|--|
| ContainerType      | Stored | Proj. | Total |  |
| 55 Gallon Drum     | 0.8    | 13.7  | 14.6  |  |
| Standard Waste Box | 1.9    | 0.0   | 1.9   |  |

**Final Form Total** 2.7 13.7 16.5

### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.18                          |
| Aluminum-Base Metal/Alloys     | 0.18                          |
| Other Metal/Alloys             | 0.18                          |
| Other Inorganic Materials      | 0.18                          |
| Cellulosics                    | 0.18                          |
| Rubber                         | 0.18                          |
| Plastics                       | 0.18                          |
| Solidified, Inorganic Matrix   | 165.82                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 828.39                        |
| Soils                          | 110.61                        |
| Packaging Material, Steel      | 133.64                        |
| Packaging Material, Plastic    | 32.89                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 2.24E+02                            |  |  |  |
| Np-237                   | 1.26E-03                            |  |  |  |
| Pu-238                   | 8.20E+01                            |  |  |  |
| Pu-239                   | 5.45E+02                            |  |  |  |
| Pu-240                   | 2.04E+02                            |  |  |  |
| Pu-241                   | 1.75E+03                            |  |  |  |
| Pu-242                   | 4.02E-02                            |  |  |  |
| Th-229                   | 3.27E-11                            |  |  |  |
| Th-230                   | 5.16E-07                            |  |  |  |
| Th-232                   | 6.61E-14                            |  |  |  |
| U-233                    | 5.25E-08                            |  |  |  |
| U-234                    | 5.31E-03                            |  |  |  |
| U-235                    | 1.13E-05                            |  |  |  |
| U-236                    | 1.27E-04                            |  |  |  |
| U-238                    | 1.27E-10                            |  |  |  |
|                          |                                     |  |  |  |

## **Waste Stream Description**

Oil/vermiculite waste resulting from heat source fabrication using SRS-supplied Pu238.

## **Management Comments**

Former WS IDs: LAT004, LAT009, also containes containers not previously associated with an identified BIR WS

## Waste Stream ID: LA-TA-55-49 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A              | Stream Name | Cemente | ed inorganics containing 238Pu (mixed) |                           |               | Inventory Date         | 9/30/2002      | 2 |
|----------|------------------|-------------|---------|--|---------------------------|---------------|------------------------|----------------|---|
| Local ID | TA-55-49         | Handling    | СН      | Final Waste Form Solidified Inorganics | Waste Matrix Code S3100   | Activity Cond | centrations Decayed to | <b>CY</b> 2002 | _ |
| Final Wa | ste Form Descrip | tors        |         |  | Waste Material Parameters |               | Final Form Radionuc    | clides         |   |

## Waste Volume Detail (m3)

Defense TRU Waste

Category:

| As-Generated Volumes   |        |       |       |
|------------------------|--------|-------|-------|
| ContainerType          | Stored | Proj. | Total |
| 55 Gallon Drum         | 15.6   | 0.0   | 15.6  |
| Drum / 30-gallon / Pit | 1.5    | 0.0   | 1.5   |
| As-Generated Total     | 17.1   | 0.0   | 17.1  |

Source: N/A

| Final Form Volumes                |        |       |       |
|-----------------------------------|--------|-------|-------|
| ContainerType                     | Stored | Proj. | Total |
| 55 Gallon Drum                    | 15.6   | 0.0   | 15.6  |
| 55 Gallon Drum/Overpack 30 Gallon | 2.7    | 0.0   | 2.7   |

**Final Form Total** 18.3 0.0 18.3

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 205.73                        |
| Aluminum-Base Metal/Alloys     | 0.18                          |
| Other Metal/Alloys             | 116.57                        |
| Other Inorganic Materials      | 14.16                         |
| Cellulosics                    | 28.21                         |
| Rubber                         | 0.48                          |
| Plastics                       | 2.34                          |
| Solidified, Inorganic Matrix   | 91.36                         |
| Cement (Solidified)            | 102.54                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 142.23                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 9.14E-01                            |  |  |  |  |
| Np-237                   | 6.21E-06                            |  |  |  |  |
| Pu-238                   | 1.83E+02                            |  |  |  |  |
| Pu-239                   | 1.69E+00                            |  |  |  |  |
| Pu-240                   | 4.77E-01                            |  |  |  |  |
| Pu-241                   | 3.47E+00                            |  |  |  |  |
| Pu-242                   | 1.05E-04                            |  |  |  |  |
| Th-229                   | 2.09E-13                            |  |  |  |  |
| Th-230                   | 1.40E-06                            |  |  |  |  |
| Th-232                   | 2.01E-16                            |  |  |  |  |
| U-233                    | 2.98E-10                            |  |  |  |  |
| U-234                    | 1.31E-02                            |  |  |  |  |
| U-235                    | 3.48E-06                            |  |  |  |  |
| U-236                    | 3.39E-07                            |  |  |  |  |
| U-238                    | 2.28E-05                            |  |  |  |  |

## **Waste Stream Description**

Solidified inorganic process solids from plutonium processing operations to fabricate heat sources using 238Pu supplied by Savannah River Site. This waste includes process leached solids, salts, and metal oxides.

## **Management Comments**

Former WS IDs: LAM006, LAM009, LAT004, LAT005, LAT006, LAT009, also containers ont previously associated with an identified BIR WS

1.48E-11

#### LA-TA-55-53 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Pyrochemical salts from PF                 | -4 (mixed | d)    |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|-----------|-------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-55-53 Handling CH Final Was                          |           |       |       | Waste Matrix Code S3100      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |       |       | Iron-Base Metal/Alloys       | 0.40                          | Am-241     | 3.56E-01                            |
|  | Stored    | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.18                          | Np-237     | 2.20E-06                            |
| 55 Gallon Drum   | 60.9      | •     |       | Other Metal/Alloys           | 0.21                          | Pu-238     | 3.19E-02                            |
| Drum / 85-gallon   | 10.6      |       | 10.6  | Other Inorganic Materials    | 3.72                          | Pu-239     | 1.22E+00                            |
|  | l.        | l     |       | Cellulosics                  | 0.18                          | Pu-240     | 2.87E-01                            |
| As-Generated Total   | 71.6      | 68.6  | 140.2 | Rubber                       | 0.18                          | Pu-241     | 1.61E+00                            |
| Final Form Volumes   |           |       |       | Plastics                     | 0.35                          | Pu-242     | 4.89E-05                            |
|  | Stored    | Proj. | Total | Solidified, Inorganic Matrix | 127.04                        | Pu-244     | 4.19E-11                            |
| 55 Gallon Drum   | 60.9      | 68.6  |       | Cement (Solidified)          | 0.00                          | Th-229     | 6.13E-14                            |
| Drum / 85-gallon   | 10.6      | 0.0   | 10.6  | Vitrified                    | 0.00                          | Th-230     | 2.10E-10                            |
|  |           |       |       | Solidified, Organic Matrix   | 162.88                        | Th-232     | 9.29E-17                            |
| Final Form Total   | 71.6      | 68.6  | 140.2 | Soils                        | 20.17                         | U-233      | 9.58E-11                            |
|  |           |       |       | Packaging Material, Steel    | 128.04                        | U-234      | 2.12E-06                            |
|  |           |       |       | Packaging Material, Plastic  | 36.24                         | U-235      | 2.71E-08                            |
|  |           |       |       | Packaging Material, Lead     | 0.00                          | U-236      | 1.79E-07                            |

## **Waste Stream Description**

Pyrochemical salt waste (homogeneous) consisting of used chloride salts from pyrochemical processes such as electrorefining, molten salt extraction, salt stripping, fluoride reduction, and direct oxide reduction. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

U-238

## **Management Comments**

Former WS IDs: LAM005, LAM006, LAM009, LAT005, LAT009

1.77E-17

4.38E-11

1.24E-05

1.24E-08

4.66E-08

1.86E-08

0.00

0.20

0.20

131.09

36.86

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

## Waste Stream ID: LA-TA-55-56

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU V  | VASIE    | SASELII   | NE INVENT   | ORY WASTE PROFILE            |                               |                 |                                     |
|--|----------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name Noncombustible and com                     |          |           | ,           |                              |                               |                 | ory Date 9/30/2002                  |
| Local ID TA-55-56 Handling CH Final Wa                           | ste Form | Heterogen | eous Debris | Waste Matrix Code S5400      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |           |             | Iron-Base Metal/Alloys       | 240.80                        | Am-241          | 7.47E-02                            |
| ContainerType  | Stored   | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.20                          | Np-237          | 8.38E-07                            |
| 55 Gallon Drum   | 33.7     | 432.4     | 466.1       | Other Metal/Alloys           | 0.90                          | Pu-238          | 2.72E-01                            |
| Other  | 1.5      | 0.0       | 1.5         | Other Inorganic Materials    | 9.30                          | Pu-239          | 4.04E-01                            |
|  |          |           |             | Cellulosics                  | 1.10                          | Pu-240          | 1.02E-01                            |
| As-Generated Total   | 35.2     | 432.4     | 467.6       | Rubber                       | 0.20                          | Pu-241          | 8.50E-01                            |
| Final Form Volumes   |          |           |             | Plastics                     | 6.80                          | Pu-242          | 9.11E-06                            |
| ContainerType  | Stored   | Proj.     | Total       | Solidified, Inorganic Matrix | 0.20                          | Th-229          | 2.85E-14                            |
| 55 Gallon Drum   | 33.7     |           |             | Cement (Solidified)          | 0.00                          | Th-230          | 8.59E-10                            |

### **Waste Stream Description**

Standard Waste Box

Noncombustible and combustible waste generated from facility and equipment operations and maintenance. This waste includes, but may not be limited to, small tools, small equipment, cans, motors, pumps, process equipment, gloveboxes, ventilation ductwork, metal-based HEPA filters, pipes, glass, graphite, slag and crucibles, salt, discarded lab ware, windows, and bottles. The waste stream may also contain a smaller fraction of combustible solids (e.g., paper, rags, plastic, rubber, leaded gloves) and a small fraction of homogeneous solids (e.g. leached solids, ash, hydroxide cakes, impure oxides).

1.9

468.0

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

## **Management Comments**

Former WS IDs: LAM004, LAM005, LAM009, LAT004, LAT005, LAT009, also containers containers not previously associated with an identified BIR WS

1.9

35.6

Final Form Total

0.0

432.4

## Waste Stream ID: LA-TA-55-60 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Metal debris waste from all wings of PF4 (non-mixed)

Local ID TA-55-60 Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Crate                | 62.4   | 0.0   | 62.4  |
| FRP Box              | 1.1    | 0.0   | 1.1   |
| Other                | 95.4   | 0.0   | 95.4  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 5'x5'x8' Box       |                  | 209.4  | 0.0   | 209.4 |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 211.3  | 0.0   | 211.3 |

**As-Generated Total** 

158.9

0.0

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 258.16                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 294.54                        |
| Other Inorganic Materials      | 6.80                          |
| Cellulosics                    | 1.96                          |
| Rubber                         | 0.03                          |
| Plastics                       | 0.16                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.01                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucides             |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| 1.75E-04                            |  |  |  |  |  |
| 1.11E-07                            |  |  |  |  |  |
| 3.07E-04                            |  |  |  |  |  |
| 3.41E-04                            |  |  |  |  |  |
| 1.22E-04                            |  |  |  |  |  |
| 2.24E-03                            |  |  |  |  |  |
| 1.22E-05                            |  |  |  |  |  |
| 1.16E-11                            |  |  |  |  |  |
| 1.19E-14                            |  |  |  |  |  |
| 2.34E-12                            |  |  |  |  |  |
| 4.72E-20                            |  |  |  |  |  |
| 1.10E-11                            |  |  |  |  |  |
| 2.20E-08                            |  |  |  |  |  |
| 7.73E-12                            |  |  |  |  |  |
| 8.31E-11                            |  |  |  |  |  |
| 1.05E-11                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

## **Waste Stream Description**

Noncombustible scrap items generated from facility and equipment decontamination and decommissioning. This waste includes small tools, cans, small equipment items, motors, pumps, and process equipment. A small fraction of combustible waste, such as plastics (mainly packaging) may also be present in this waste stream.

158.9

## **Management Comments**

Former WS IDs: LAM005, LAM009, LAT005, LAT009

0.00

0.00

U-236

U-238

1.31E-10

1.36E-15

## Waste Stream ID: LA-TA-55-61

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Metal debris waste from a                  | Invent                        | Inventory Date 9/30/2003 |       |                              |                               |            |                                     |
|--|-------------------------------|--------------------------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID TA-55-61 Handling CH Final Wa                           | aste Form Uncategorized Metal |                          |       | Waste Matrix Code S5400      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |                               |                          |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |                               |                          |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                               |                          |       | Iron-Base Metal/Alloys       | 257.70                        | Am-241     | 1.33E-04                            |
| ContainerType  | Stored                        | Proj.                    | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 5.80E-10                            |
| Crate  | 120.1                         | 0.0                      |       | Other Metal/Alloys           | 302.90                        | Pu-238     | 1.32E-03                            |
| FRP Box  | 15.0                          |                          |       | Other Inorganic Materials    | 6.80                          | Pu-239     | 6.14E-04                            |
| Other  | 49.9                          |                          |       | Cellulosics                  | 0.00                          | Pu-240     | 2.10E-04                            |
|  |                               |                          |       | Rubber                       | 0.00                          | Pu-241     | 2.04E-03                            |
| As-Generated Total   | 185.1                         | 0.0                      | 185.1 | Plastics                     | 0.00                          | Pu-242     | 4.29E-07                            |
| Final Form Volumes   |                               |                          |       | Solidified, Inorganic Matrix | 0.00                          | Pu-244     | 3.64E-13                            |
| ContainerType  | Stored                        | Proj.                    | Total | Cement (Solidified)          | 0.00                          | Th-229     | 1.13E-17                            |
| 5'x5'x8' Box   | 175.5                         |                          |       | Vitrified                    | 0.00                          | Th-230     | 8.31E-12                            |
| Standard Waste Box   | 51.0                          |                          |       | Solidified, Organic Matrix   | 0.00                          | Th-232     | 6.77E-20                            |
|  |                               |                          |       | Soils                        | 0.00                          | U-233      | 2.05E-14                            |
| Final Form Total   | 226.5                         | 0.0                      | 226.5 | Packaging Material, Steel    | 154.00                        | U-234      | 8.56E-08                            |
|  |                               |                          |       | Packaging Material, Plastic  | 0.27                          | U-235      | 1.27E-11                            |

## **Waste Stream Description**

Metal waste generated from facility and equipment decontamination and decommissioning activities.. This waste includes small tools, cans, small equipment items, motors, pumps, and process equipment. This waste also includes gloveboxes and associated ducting, equipment, and construction debris associated with the removal of gloveboxes. A small fraction of combustible waste, such as plastics (mainly packaging), may also be present in this waste stream.

Packaging Material, Lead

Packaging Material, Steel Plug

## **Management Comments**

Former WS IDs: LAM005, LAM009

2.68E-13

5.42E-20

1.51E-14

2.63E-09 6.87E-12

9.97E-11

1.67E-16

## Waste Stream ID: LA-TA-55-62

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | RU WASTE E        | SASELII   | NE INVENI      | ORY WASTE PROFILE            |                               |                 |                                     |
|--|-------------------|-----------|----------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID N/A Stream Name Combustible/nonco                          | mbustible debris  | waste fro | m all wings of | PF-4 (mixed)                 |                               | Invent          | ory Date 9/30/2002                  |
| Local ID TA-55-62 Handling CH Fin                                | al Waste Form     | Combustib | ole            | Waste Matrix Code S5400      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |                   |           |                | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |                   |           |                | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                   |           |                | Iron-Base Metal/Alloys       | 272.60                        | Am-241          | 1.04E-04                            |
| ContainerType  | Stored            | Proj.     | Total          | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 4.38E-10                            |
| Crate  | 41.6              | 0.0       |                | Other Metal/Alloys           | 30.30                         | Pu-238          | 3.86E-05                            |
|  |                   |           |                | Other Inorganic Materials    | 6.80                          | Pu-239          | 3.17E-04                            |
| As-Generated   | <b>Fotal</b> 41.6 | 0.0       | 41.6           | Cellulosics                  | 64.00                         | Pu-240          | 1.53E-04                            |
| Final Form Volumes   |                   |           |                | Rubber                       | 1.10                          | Pu-241          | 1.69E-03                            |
| ContainerType  | Stored            | Proj.     | Total          | Plastics                     | 5.30                          | Pu-242          | 5.03E-08                            |
| 5'x5'x8' Box   | 73.6              |           |                | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 8.20E-18                            |
| o no no Bon  | 70.0              | 0.0       | . 5.5          |                              | _                             |                 |                                     |

73.6

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

0.00

0.00

154.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

Combustible waste generated from facility and equipment decontamination and decommissioning activities. Combustible waste includes paper, rags, plastic, rubber, and plastic-based and cellulose-based waste. Noncombustible waste includes items such as small tools, cans, small equipment items, and broken glass.

73.6

**Final Form Total** 

0.0

## **Management Comments**

Former WS IDs: LAT009

## Waste Stream ID: LA-TA-55-63

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Local ID TA-55-63 Handling CH Final Was                          | ste Form | ilter |          | Waste Matrix Code S5410        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|----------|-------|----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                                     |          |       |          | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |       |          | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |       |          | Iron-Base Metal/Alloys         | 272.60                        | Am-241          | 8.20E-04                            |
| ContainerType  | Stored   | Proj. | Total    | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 2.41E-09                            |
| Crate  | 3.2      | 0.0   |          | Other Metal/Alloys             | 30.30                         | Pu-238          | 3.40E-04                            |
|  |          |       |          | Other Inorganic Materials      | 6.80                          | Pu-239          | 1.32E-02                            |
| As-Generated Total   | 3.2      | 0.0   | 3.2      | Cellulosics                    | 64.00                         | Pu-240          | 3.08E-03                            |
| Final Form Volumes   |          |       |          | Rubber                         | 1.10                          | Pu-241          | 2.15E-02                            |
| ContainerType  | Stored   | Proj. | Total    | Plastics                       | 5.30                          | Pu-242          | 1.77E-07                            |
| 5'x5'x8' Box   | 5.7      | 0.0   |          | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.31E-17                            |
|  | I        |       | <u> </u> | Cement (Solidified)            | 0.00                          | Th-230          | 1.21E-12                            |
| Final Form Total   | 5.7      | 0.0   | 5.7      | Vitrified                      | 0.00                          | Th-232          | 5.77E-19                            |
|  |          |       |          | Solidified, Organic Matrix     | 0.00                          | U-233           | 5.93E-14                            |
|  |          |       |          | Soils                          | 0.00                          | U-234           | 1.65E-08                            |
|  |          |       |          | Packaging Material, Steel      | 154.00                        | U-235           | 2.08E-10                            |
|  |          |       |          | Packaging Material, Plastic    | 0.00                          | U-236           | 1.46E-09                            |
|  |          |       |          | Packaging Material, Lead       | 0.00                          | U-238           | 4.27E-16                            |
|  |          |       |          | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

waste offeath bescription

HEPA filters generated from facility and equipment operations and maintenance

**Management Comments** 

Former WS IDs: LAT009

| HQ ID LL-W028 Stream Name R&D Glovebox Waste (Fo                            |            | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|------------|-----------|-------------|------------------------------|-------------------------------|---------|---|
| Final Waste Form Descriptors  | iste i Omi | Teterogen | odd Deblio  | Waste Material Parameters    | Activity Co                   |         | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 5.00                          | Am-241  | 2.59E+00                                |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 5.00                          | Cm-244  | 3.03E+00                                |
| Drum / 55 gallon  | 23.9       |           | 28.7        | Other Metal/Alloys           | 2.00                          | Pu-238  | 2.46E+00                                |
|   |            |           |             | Other Inorganic Materials    | 1.00                          | Pu-239  | 2.06E+00                                |
| As-Generated Total  | 23.9       | 4.8       | 28.7        | Cellulosics                  | 100.00                        | Pu-240  | 9.26E-01                                |
| Final Form Volumes  |            |           |             | Rubber                       | 5.00                          | Pu-241  | 2.83E+01                                |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 100.00                        |         |   |
| 55 Gallon Drum  | 23.9       |           | 28.7        | Solidified, Inorganic Matrix | 5.00                          |         |   |
|   |            |           |             | Cement (Solidified)          | 0.00                          |         |   |
| Final Form Total  | 23.9       | 4.8       | 28.7        | Vitrified                    | 0.00                          |         |   |
|   |            |           |             | Solidified, Organic Matrix   | 5.00                          |         |   |
|   |            |           |             | Soils                        | 0.00                          |         |   |
|   |            |           |             | Packaging Material, Steel    | 131.00                        |         |   |
|   |            |           |             | Packaging Material, Plastic  | 37.00                         |         |   |
|   |            |           |             | Packaging Material, Lead     | 0.00                          |         |   |

### **Waste Stream Description**

The waste consists mostly of untreated dry solids such as tissues, paper, assorted plastics, glassware, ceramics, and metals. Portland cement or Aquaset is used to solidify small amounts of water-based liquids; Envirostone or Petroset is used to solidify small amounts of solvents and oil-based liquids. The composition varies considerably, but it is predominantly organics (> 90% by weight). The waste does contain small amounts of RCRA listed hazardous materials. Typical hazardous materials are leaded gloves or materials contaminated with solvents.

Packaging Material, Steel Plug

0.00

### **Management Comments**

| HQ ID LL-W029 Stream Name Solidified Waste (Form 2)                          |            |               |           |                              |                               | Invento         | ory Date 9/30/2002                  |
|--|------------|---------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 2 Non-mixed Handling CH Final Wa                               | ste Form   | Solidified In | norganics | Waste Matrix Code S3120      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |               |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste | •             |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |               |           | Iron-Base Metal/Alloys       | 30.00                         | Am-241          | 9.09E-01                            |
| ContainerType  | Stored     | Proj.         | Total     | Aluminum-Base Metal/Alloys   | 5.00                          | Pu-239          | 1.40E+00                            |
| Drum / 55-gallon   | 13.7       | 175.1         | 188.9     | Other Metal/Alloys           | 1.00                          | Pu-240          | 6.32E-01                            |
|  | l          |               |           | Other Inorganic Materials    | 1.00                          | Pu-241          | 1.95E+01                            |
| As-Generated Total   | 13.7       | 175.1         | 188.9     | Cellulosics                  | 10.00                         |                 |                                     |
| Final Form Volumes   |            |               |           | Rubber                       | 1.00                          |                 |                                     |
| ContainerType  | Stored     | Proj.         | Total     | Plastics                     | 20.00                         |                 |                                     |
| 55 Gallon Drum   | 13.7       | 175.1         | 188.9     | Solidified, Inorganic Matrix | 100.00                        |                 |                                     |
|  |            |               | <u>_</u>  | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 13.7       | 175.1         | 188.9     | Vitrified                    | 0.00                          |                 |                                     |
|  |            |               |           | Solidified, Organic Matrix   | 100.00                        |                 |                                     |
|  |            |               |           | Soils                        | 0.00                          |                 |                                     |
|  |            |               |           | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |               |           | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |               |           | Packaging Material, Lead     | 0.00                          |                 |                                     |

## **Waste Stream Description**

50 to 90% of this waste matrix consists of liquids solidified in 1 to 5 gallon plastic containers using Portland cement or Aquaset for the water based liquids and Envirostone or Petroset for the oil-based liquids. The remainder consists of glovebox waste similar to form 1 waste. The waste does not contain any RCRA-listed hazardous materials.

Packaging Material, Steel Plug

0.00

## **Management Comments**

| HQ ID LL-W030 Stream Name R&D Glovebox Waste (Fo                             | orm 1)     |            |             |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|------------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID Form 1 Non-mixed Handling CH Final Wa                                | ste Form   | Heterogene | eous Debris | Waste Matrix Code S5440        | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |            |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |            |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |            |             | Iron-Base Metal/Alloys         | 6.82                          | Am-241          | 1.79E+00                            |
| ContainerType  | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys     | 5.00                          | Pu-238          | 3.20E-01                            |
| Box / Misc.  | 7.7        | 0.0        | 7.7         | Other Metal/Alloys             | 2.00                          | Pu-239          | 2.49E+00                            |
| Box / Misc. 2  | 4.6        | 0.0        | 4.6         | Other Inorganic Materials      | 1.00                          | Pu-240          | 1.03E+00                            |
| Drum / 55 gallon   | 74.0       | 944.3      | 1018.4      | Cellulosics                    | 99.70                         | Pu-241          | 3.16E+01                            |
|  |            |            |             | Rubber                         | 5.00                          | <u> </u>        |                                     |
| As-Generated Total   | 86.3       | 944.3      | 1030.6      | Plastics                       | 99.70                         |                 |                                     |
| Final Form Volumes   |            |            |             | Solidified, Inorganic Matrix   | 5.00                          |                 |                                     |
| ContainerType  | Stored     | Proj.      | Total       | Cement (Solidified)            | 0.00                          |                 |                                     |
| 55 Gallon Drum   | 74.0       |            | 1018.4      | Vitrified                      | 0.00                          |                 |                                     |
| 5x5x8 Box  | 5.7        | 0.0        | 5.7         | Solidified, Organic Matrix     | 5.00                          |                 |                                     |
| Standard Waste Box   | 9.4        | 0.0        | 9.4         | Soils                          | 0.00                          |                 |                                     |
|  | l!         |            | <u>_</u>    | Packaging Material, Steel      | 163.07                        |                 |                                     |
| Final Form Total   | 89.2       | 944.3      | 1033.5      | Packaging Material, Plastic    | 21.71                         |                 |                                     |
|  |            |            |             | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |            |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste consists mostly of untreated dry solids such as tissues, paper, assorted plastics, glassware, ceramics, and metals. Portland cement or Aquaset is used to solidify small amounts of water-based liquids; Envirostone or Petroset is used to solidify small amounts of solvents and oil-based liquids. The composition varies considerably, but it is predominantly organics (> 90% by weight). The waste does not contain any RCRA listed hazardous materials.

## **Management Comments**

# Waste Stream ID: LL-T003 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID LL-W031 Stream Name Combined metal scrap &                             | incidental o | combust (F | Form 3)     |                               |                               | Invent     | ory Date 9/30/2002                  |
|--|--------------|------------|-------------|-------------------------------|-------------------------------|------------|-------------------------------------|
| ocal ID Form 3 Non-mixed Handling CH Final Wa                                | ste Form     | Heterogen  | eous Debris | Waste Matrix Code S5420       | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |              |            |             | Waste Material Parameters     |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | itory Waste  |            |             | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |              |            |             | Iron-Base Metal/Alloys        | 20.00                         | Am-241     | 1.35E-01                            |
| ContainerType  | Stored       | Proj.      | Total       | Aluminum-Base Metal/Alloys    | 3.00                          | Pu-238     | 7.02E-02                            |
| Drum / 55 gallon   | 4.6          | 58.2       |             | Other Metal/Alloys            | 1.00                          | Pu-239     | 9.92E-02                            |
| Standard Waste Box /   | 13.3         |            |             | Other Inorganic Materials     | 1.00                          | Pu-240     | 8.02E-02                            |
|  |              |            |             | Cellulosics                   | 1.00                          | Pu-241     | 2.45E+00                            |
| As-Generated Total   | 17.9         | 495.2      | 513.1       | Rubber                        | 1.00                          |            |                                     |
| Final Form Volumes   |              |            |             | Plastics                      | 1.00                          |            |                                     |
| ContainerType  | Stored       | Proj.      | Total       | Solidified, Inorganic Matrix  | 2.50                          |            |                                     |
| 55 Gallon Drum   | 4.6          | 58.2       | 62.8        | Cement (Solidified)           | 0.00                          |            |                                     |
| Standard Waste Box   | 13.3         | 437.0      | 450.3       | Vitrified                     | 0.00                          |            |                                     |
|  |              |            |             | Solidified, Organic Matrix    | 2.50                          |            |                                     |
| Final Form Total   | 17.9         | 495.2      | 513.1       | Soils                         | 0.00                          |            |                                     |
|  |              |            |             | Packaging Material, Steel     | 151.18                        |            |                                     |
|  |              |            |             | Packaging Material, Plastic   | 5.58                          |            |                                     |
|  |              |            |             | Packaging Material, Lead      | 0.00                          |            |                                     |
|  |              |            |             | Packaging Material Steel Plug | 0.00                          |            |                                     |

## **Waste Stream Description**

The waste consists mostly of metal scrap such as decommissioned gloveboxes, hoods and other large equipment as well as laboratory trash. Typically it will contain metal components, glassware, ceramics, plastics, paper, and wood. It will be mostly inorganic materials, but can vary widely. This waste does not contain RCRA listed hazardous materials.

## **Management Comments**

| HQ ID LL-W032 Stream Name Pyrochemical salt waste (                          | Form 4)    |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 4 Non-mixed Handling CH Final Wa                               | ste Form   | Salt  |       | Waste Matrix Code S3140        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |       |       | Iron-Base Metal/Alloys         | 20.00                         | Am-241          | 2.81E+00                            |
| ContainerType  | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys     | 5.00                          | Pu-238          | 4.74E-01                            |
| Drum / 55-gallon   | 1.2        | 14.8  |       | Other Metal/Alloys             | 2.00                          | Pu-239          | 2.06E+00                            |
|  |            |       |       | Other Inorganic Materials      | 290.00                        | Pu-240          | 1.66E+00                            |
| As-Generated Total   | 1.2        | 14.8  | 16.0  | Cellulosics                    | 2.00                          | Pu-241          | 5.10E+01                            |
| Final Form Volumes   |            |       |       | Rubber                         | 1.00                          |                 |                                     |
| ContainerType  | Stored     | Proj. | Total | Plastics                       | 20.00                         |                 |                                     |
| 55 Gallon Drum   | 1.2        | 14.8  | 16.0  | Solidified, Inorganic Matrix   | 1.00                          |                 |                                     |
|  |            |       |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total   | 1.2        | 14.8  | 16.0  | Vitrified                      | 0.00                          |                 |                                     |
|  |            |       |       | Solidified, Organic Matrix     | 1.00                          |                 |                                     |
|  |            |       |       | Soils                          | 0.00                          |                 |                                     |
|  |            |       |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |            |       |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |            |       |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste consists primarily of used chloride and fluoride salts from pyrochemical processes such as electrorefining, molten salt extraction, and direct oxide reduction. There may also be up to 20% heterogeneous organic glovebox bagout waste packaged with the salt waste. This waste does not contain any RCRA listed hazardous materials.

## **Management Comments**

| HQ ID LL-W033 Stream Name HEPA filters (Form 5)                             |             |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 5 Non-mixed Handling CH Final Wa                              | aste Form F | ilter |       | Waste Matrix Code S5410        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste  |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |       |       | Iron-Base Metal/Alloys         | 97.02                         | Am-241          | 4.90E-01                            |
| ContainerType   | Stored      | Proj. | Total | Aluminum-Base Metal/Alloys     | 19.90                         | Cm-244          | 3.98E+00                            |
| Box / Rogers Chem. #1   | 14.4        | 0.0   |       | Other Metal/Alloys             | 9.60                          | Pu-238          | 1.60E-01                            |
| Box / Rogers Chem. #2   | 8.6         | 0.0   |       | Other Inorganic Materials      | 19.90                         | Pu-239          | 2.20E-01                            |
| Box / Rogers Chem. #3   | 8.7         | 0.0   |       | Cellulosics                    | 63.10                         | Pu-240          | 1.80E-01                            |
| Capital Indus. Box #1   | 4.4         | 0.0   |       | Rubber                         | 9.60                          | Pu-241          | 5.42E+00                            |
| Capital Indus. Box #2 /   | 86.9        | 0.0   |       | Plastics                       | 19.90                         |                 |                                     |
| Capital Indus. Box #3   | 5.7         | 0.0   |       | Solidified, Inorganic Matrix   | 0.00                          |                 |                                     |
| Capital Indus. Box #4   | 6.4         | 0.0   |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Drum / 55 gallon  | 1.7         | 19.6  |       | Vitrified                      | 0.00                          |                 |                                     |
| Standard Waste Box /  | 5.7         | 437.0 |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   | 1           |       |       | Soils                          | 0.00                          |                 |                                     |
| As-Generated Total  | 142.5       | 456.6 | 599.1 | Packaging Material, Steel      | 153.90                        |                 |                                     |
| Final Form Volumes  |             |       |       | Packaging Material, Plastic    | 0.04                          |                 |                                     |
| ContainerType   | Stored      | Proj. | Total | Packaging Material, Lead       | 0.00                          |                 |                                     |
| 55 Gallon Drum  | 1.7         | 19.6  | 21.2  | Packaging Material, Steel Plug | 0.00                          |                 |                                     |
| 5X5X8 Box   | 113.2       | 0.0   | 113.2 |                                |                               |                 |                                     |
| Standard Waste Box  | 54.8        | 434.7 | 489.5 |                                |                               |                 |                                     |
| Final Form Total  | 169.7       | 454.3 | 623.9 |                                |                               |                 |                                     |
| rinai Form Total  | 103.7       | TUT.U | 020.5 |                                |                               |                 |                                     |

### **Waste Stream Description**

The waste matrix is mostly wood framed HEPA filters although some small metal cased HEPA filters are also included. Some of the filters contain asbestos.

## **Management Comments**

Some waste may need to be repackaged in order to meet transportation (TRAMPAC) requirements for gas generation. This waste stream may contain waste containing hazardous constituents that the state of California would regulate (more stringently than RCRA) if the waste were not also radioactive. California now has authority to regulate only RCRA mixed waste. Also, HEPA filters, if found to fail fine particles requirements, would require immobilization of fine particles.

Date of inventory and number of containers projected are the same as Standard Waste Box storage estimates. However, I also project an extra 8 SWBs from repackaging the non-standard box. 8 Standard Waste Boxes will be required to repack the existing waste from the non-standard boxes and should be repackaged in the year 2000.

| HQ ID LL-W018 Stream Name Combined metal scrap &                             | incidental | combust.(F | orm 3)      |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|------------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 3 Mixed Handling CH Final Wa                                   | ste Form   | Heterogen  | eous Debris | Waste Matrix Code S5420        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |            |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste | •          |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |            |             | Iron-Base Metal/Alloys         | 150.00                        | Am-241          | 1.04E-02                            |
| ContainerType  | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys     | 20.00                         | Pu-239          | 8.78E-03                            |
| Drum / 55 gallon   | 0.2        | 0.0        | 0.2         | Other Metal/Alloys             | 10.00                         | Pu-240          | 2.03E-02                            |
| Standard Waste Box /   | 1.9        | 0.0        | 1.9         | Other Inorganic Materials      | 5.00                          | Pu-241          | 5.94E-01                            |
|  |            |            |             | Cellulosics                    | 5.00                          |                 |                                     |
| As-Generated Total   | 2.1        | 0.0        | 2.1         | Rubber                         | 2.00                          |                 |                                     |
| Final Form Volumes   |            |            |             | Plastics                       | 20.00                         |                 |                                     |
| ContainerType  | Stored     | Proj.      | Total       | Solidified, Inorganic Matrix   | 2.00                          |                 |                                     |
| 55 Gallon Drum   | 0.2        | 0.0        | 0.2         | Cement (Solidified)            | 0.00                          |                 |                                     |
| Standard Waste Box   | 1.9        | 0.0        | 1.9         | Vitrified                      | 0.00                          |                 |                                     |
|  |            |            |             | Solidified, Organic Matrix     | 2.00                          |                 |                                     |
| Final Form Total   | 2.1        | 0.0        | 2.1         | Soils                          | 0.00                          |                 |                                     |
|  |            |            |             | Packaging Material, Steel      | 151.73                        |                 |                                     |
|  |            |            |             | Packaging Material, Plastic    | 4.73                          |                 |                                     |
|  |            |            |             | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |            |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is potentially radioactive inorganic scrap metal generated from on-site laboratory research and maintenance, including laboratory clean up. Includes lead bricks and metal shavings. These materials may contain transuranic activity (80.6 lbs. in 55-gal. drum) Waste is used and discarded metal parts generated from on-site research and development activities.

## **Management Comments**

| HQ ID LL-W019 Stream Name Solidified Waste (Form 2)                          |            |              |          |                                |                               |                 | ory Date 9/30/2002                  |
|--|------------|--------------|----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 2 Mixed Handling CH Final Wa                                   | ste Form   | Solidified C | Organics | Waste Matrix Code S3220        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |              |          | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |              |          | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |              |          | Iron-Base Metal/Alloys         | 30.00                         | Am-241          | 1.24E+00                            |
| ContainerType  | Stored     | Proj.        | Total    | Aluminum-Base Metal/Alloys     | 5.00                          | Pu-239          | 7.89E-01                            |
| Drum / 55-gallon   | 8.1        | 4.8          |          | Other Metal/Alloys             | 1.00                          | Pu-240          | 6.63E-01                            |
| <u> </u>   |            |              |          | Other Inorganic Materials      | 1.00                          | Pu-241          | 2.01E+01                            |
| As-Generated Total   | 8.1        | 4.8          | 12.9     | Cellulosics                    | 10.00                         |                 |                                     |
| Final Form Volumes   |            |              |          | Rubber                         | 1.00                          |                 |                                     |
| ContainerType  | Stored     | Proj.        | Total    | Plastics                       | 20.00                         |                 |                                     |
| 55 Gallon Drum   | 8.1        | 4.8          | 12.9     | Solidified, Inorganic Matrix   | 100.00                        |                 |                                     |
|  |            |              |          | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total   | 8.1        | 4.8          | 12.9     | Vitrified                      | 0.00                          |                 |                                     |
|  |            |              |          | Solidified, Organic Matrix     | 100.00                        |                 |                                     |
|  |            |              |          | Soils                          | 0.00                          |                 |                                     |
|  |            |              |          | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |            |              |          | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |            |              |          | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |              |          | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is radioactive halogenated solvents generated from on-site cleaning of tanks and equipment and operating of research laboratories and machining shops. Waste consists of TCE and TCA and may contain transuranic activity (0.6 lbs. in a 55-gallon drum). Waste is generated from the on-site cleaning of tanks and equipment used in changing R & D activities.

## **Management Comments**

0.00 0.00

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID N/A Stream Name Mixed Waste HEPA Filter                               | `S         |        |       |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|------------|--------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID Form 5 mixed Handling CH Final Wa                                  | ste Form   | Filter |       | Waste Matrix Code S5410      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |        |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste | •      |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |        |       | Iron-Base Metal/Alloys       | 191.52                        | Am-241          | 4.50E-01                            |
| ContainerType   | Stored     | Proj.  | Total | Aluminum-Base Metal/Alloys   | 18.10                         | Cm-244          | 3.62E+00                            |
| Box / Rogers Chem. #4   | 5.6        |        | 5.6   | Other Metal/Alloys           | 8.80                          | Pu-238          | 1.50E-01                            |
| Box / Rogers Chem. #5   | 8.0        | 0.0    | 8.0   | Other Inorganic Materials    | 18.10                         | Pu-239          | 2.00E-01                            |
| Capital Indus. Box #2   | 4.6        | 0.0    | 4.6   | Cellulosics                  | 57.60                         | Pu-240          | 1.60E-01                            |
| Drum / 55 gallon  | 0.2        | 0.0    | 0.2   | Rubber                       | 8.80                          | Pu-241          | 4.94E+00                            |
|   |            |        |       | Plastics                     | 18.10                         |                 |                                     |
| As-Generated Total  | 18.4       | 0.0    | 18.4  | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| Final Form Volumes  |            |        |       | Cement (Solidified)          | 0.00                          |                 |                                     |
| ContainerType   | Stored     | Proj.  | Total | Vitrified                    | 0.00                          |                 |                                     |
| 55 Gallon Drum  | 0.2        | 0.0    | 0.2   | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
| 5X5X8 Box   | 11.3       | 0.0    | 11.3  | Soils                        | 0.00                          |                 |                                     |
| Standard Waste Box  | 9.4        | 0.0    | 9.4   | Packaging Material, Steel    | 153.97                        |                 |                                     |
|   |            |        |       | Packaging Material, Plastic  | 0.00                          |                 |                                     |
| Final Form Total  | 21.0       | 0.0    | 21.0  | Packaging Material Lead      | 0.00                          |                 |                                     |

## **Waste Stream Description**

Waste Stream ID:

LL-W034

The waste matrix is mostly wood framed HEPA filters although some small metal cased HEPA filters are also included. Some of the filters contain asbestos. Filters may also be contaminated with lead, cadmium, trichloroethylene, freon, and/or carbon tetrachloride.

Packaging Material, Lead

Packaging Material, Steel Plug

## **Management Comments**

Some waste may need to be repackaged in order to meet transportation (TRAMPAC) requirements for gas generation. This waste stream may contain waste containing hazardous constituents that the state of California would regulate (more stringently than RCRA) if the waste were not also radioactive. California now has authority to regulate only RCRA mixed waste. Also, HEPA filters, if found to fail fine particles requirements, would require immobilization of fine particles.

## Waste Stream ID: MC-W001

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID MC-W001 Stream Name USAMC TRU Waste                        |           |           |             |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|-----------|-----------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final V                                 | aste Form | Heterogen | eous Debris | Waste Matrix Code S5400        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |           |           |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |           |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys         | 190.24                        | Am-241          | 6.25E-02                            |
| ContainerType  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 0.18                          | Np-237          | 1.62E-07                            |
| 55 Gallon Drum   | 2.5       | 0.0       | 2.5         | Other Metal/Alloys             | 6.07                          | Pu-239          | 2.43E-02                            |
|  |           |           |             | Other Inorganic Materials      | 0.66                          | Pu-241          | 7.54E-02                            |
| As-Generated Total   | ıl 2.5    | 0.0       | 2.5         | Cellulosics                    | 0.73                          | Th-229          | 6.94E-16                            |
| Final Form Volumes   |           |           |             | Rubber                         | 0.31                          | U-233           | 2.78E-12                            |
| ContainerType  | Stored    | Proj.     | Total       | Plastics                       | 5.86                          | U-235           | 1.92E-10                            |
| 55 Gallon Drum   | 2.5       | 0.0       | 2.5         | Solidified, Inorganic Matrix   | 0.52                          |                 |                                     |
|  |           |           |             | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Tota  | ıl 2.5    | 0.0       | 2.5         | Vitrified                      | 0.00                          |                 |                                     |
|  |           |           |             | Solidified, Organic Matrix     | 0.18                          |                 |                                     |
|  |           |           |             | Soils                          | 0.37                          |                 |                                     |
|  |           |           |             | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |           |           |             | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |           |           |             | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |           |           |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

**Waste Stream Description** 

Army sources

**Management Comments** 

Waste Stream ID: MU-W002

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID MU-W002 Stream Name Heterogeneous Debris                              |             |           |             |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|-----------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa  | ste Form    | Heterogen | eous Debris | Waste Matrix Code S5440        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |           |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | itory Waste |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |           |             | Iron-Base Metal/Alloys         | 11.25                         | Am-241          | 1.49E+00                            |
| ContainerType   | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 3.25E-04                            |
| Drum / 55-gallon  | 1.5         | 0.0       |             | Other Metal/Alloys             | 0.00                          | Pu-239          | 3.62E-02                            |
|   |             |           |             | Other Inorganic Materials      | 25.00                         | Th-229          | 1.03E-12                            |
| As-Generated Total  | 1.5         | 0.0       | 1.5         | Cellulosics                    | 2.50                          | Th-230          | 3.29E-17                            |
| Final Form Volumes  |             |           |             | Rubber                         | 25.00                         | U-233           | 5.50E-09                            |
| ContainerType   | Stored      | Proj.     | Total       | Plastics                       | 37.50                         | U-234           | 1.83E-12                            |
| 55 Gallon Drum  | 1.5         | 0.0       | 1.5         | Solidified, Inorganic Matrix   | 0.00                          | U-235           | 1.43E-10                            |
|   | l           |           | <u> </u>    | Cement (Solidified)            | 0.00                          | U-238           | 1.65E-07                            |
| Final Form Total  | 1.5         | 0.0       | 1.5         | Vitrified                      | 0.00                          |                 |                                     |
|   |             |           |             | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |             |           |             | Soils                          | 0.00                          |                 |                                     |
|   |             |           |             | Packaging Material, Steel      | 131.00                        |                 |                                     |
|   |             |           |             | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|   |             |           |             | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |             |           |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

### **Waste Stream Description**

MTRU Heterogeneous Debris. The radioactive wastes generated on the project will come first from normal operations and second from the D&D of the facility at the end of the project. Radioactive wastes from normal operation will consist of the following:

- o HEPA filters from the glove box
- o HEPA filters from offgas and room filtration systems
- o paper wipes from periodic cleaning of the glove boxes
- o used sample bottles
- o damaged glove box gloves
- o used crucibles, tubes, and wires

## **Management Comments**

MURR, costar tower 5th level in containment.

# Waste Stream ID: NT-JAS-01 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name Combined metal scrap and incidental combustibles

Local ID Jasper Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code TBD Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 0.0    | 453.6 | 453.6 |
|                      | As-Generated Total | 0.0    | 453.6 | 453.6 |
| Final Form Volumes   |                    |        |       |       |

| i iliai i oriii volullies |                  |        |       |       |
|---------------------------|------------------|--------|-------|-------|
| ContainerType             |                  | Stored | Proj. | Total |
| Standard Waste Box        |                  | 0.0    | 453.6 | 453.6 |
|                           | Final Form Total | 0.0    | 453.6 | 453.6 |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 20.00                         |
| Aluminum-Base Metal/Alloys     | 3.00                          |
| Other Metal/Alloys             | 1.00                          |
| Other Inorganic Materials      | 1.00                          |
| Cellulosics                    | 1.00                          |
| Rubber                         | 1.00                          |
| Plastics                       | 1.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.35E-01                            |
| Pu-238  | 7.02E-02                            |
| Pu-239  | 9.92E-02                            |
| Pu-240  | 8.02E-02                            |
| Pu-241  | 2.45E+00                            |

## **Waste Stream Description**

Waste stream consists of spent Primary Target Chambers from Jasper gas gun experiments. PTCs are metal chambers used to contain debris from the impact of a sabot on a disk of plutonium metal.

## **Management Comments**

| Local ID None Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 20 | HQ ID    | NT-W001 | Stream Name | Heteroge | neous Debris, Uncategorized           |                         |               | Inventory Date 4/30/1995       |
|--|----------|---------|-------------|----------|---------------------------------------|-------------------------|---------------|--------------------------------|
|  | Local ID | None    | Handling    |          | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5490 | Activity Cond | centrations Decayed to CY 2002 |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 343.0  | 5.2   | 348.2 |
| Drum / 85 gallon     | 0.3    | 0.3   | 0.6   |
| Nonstandard Box      | 271.4  | 0.0   | 271.4 |

**As-Generated Total** 

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 343.0  | 5.2   | 348.2 |
| Standard Waste Box |                  | 270.3  | 3.8   | 274.0 |
|                    | Final Form Total | 613.3  | 9.0   | 622.2 |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 72.20                         |
| Aluminum-Base Metal/Alloys     | 12.30                         |
| Other Metal/Alloys             | 5.80                          |
| Other Inorganic Materials      | 4.80                          |
| Cellulosics                    | 52.50                         |
| Rubber                         | 3.80                          |
| Plastics                       | 50.10                         |
| Solidified, Inorganic Matrix   | 11.80                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 11.80                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 146.78                        |
| Packaging Material, Plastic    | 16.53                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| FIIIai FOIIII I | Radionuciides |
|-----------------|---------------|
|                 | Typical       |
|                 | Concentration |
| Isotope         | (Ci/m3)       |
| Am-241          | 4.89E-01      |
| Am-243          | 1.99E-03      |
| Cm-244          | 3.68E-03      |
| Cs-137          | 4.51E-05      |
| Np-237          | 1.04E-05      |
| Pu-238          | 2.12E-01      |
| Pu-239          | 4.53E+00      |
| Pu-240          | 3.04E-02      |
| Pu-241          | 2.60E-01      |
| Pu-242          | 1.42E-04      |
| Pu-244          | 1.63E-09      |
| Sr-90           | 1.53E-07      |
| Th-229          | 4.40E-06      |
| Th-230          | 1.93E-09      |
| Th-232          | 5.70E-18      |
| U-233           | 2.94E-03      |
| U-234           | 1.84E-05      |
| U-235           | 2.42E-07      |
| U-236           | 1.44E-08      |
| U-238           | 2.51E-07      |
|                 | •             |

#### **Waste Stream Description**

This waste stream consists of glovebox parts, laboratory trash, contaminated equipment and solidified sludges. Real time radiography has been performed on the waste to verify that there are no free liquids present, with the exception of liquid in aerosol cans, which, when treated will be eliminated from this waste stream. Most of the waste is contact-handled TRU waste; 3 drums are remote-handled.\* The waste stream was generated at the Lawrence Livermore National Laboratory, Livermore, CA (LLNL) and shipped to the NTS from 1974 until 1990. The waste was declared as potentially mixed TRU waste by the generator in April, 1991.

\*Due to recent storage reconfigurations and surveys, only three of the 4 previously reported packages are considered remote-handled.

614.8

5.5

620.3

### **Management Comments**

The Nevada Test Site (NTS) is located about 105 km (65 mi) northwest of Las Vegas, and occupies 3,497 km2 (1,350 mi2) of federally owned land in southeastern Nevada's Nye County. The Area 5 Radioactive Waste Management Site (RWMS) is located in Frenchman Flat within the southeast corner of the NTS, approximately 15 miles north of Mercury, Nevada and 80 miles northwest of Las Vegas, Nevada. The developed portion of the Area 5 RWMS occupies 37 hectares (ha) (92 acres) in the southeast corner of the 296 ha (732 acres) designated area of NTS Area 5. Building 5-24, a 21,470 square-foot fabric-covered structure, is located within the 92-acre RWMS on the TRU Waste Storage Pad, an asphalt pad comprising an area of 0.829 ha (2.05 acres) constructed to meet RCRA

standards.

Included in current storage numbers is the assumption that two boxes containing 12 drums will be transferred into 12 0.208m3 drums (55 gallon drums). Projections include 25 55 gallon drums from decon activities.

No TRU standard waste boxes (SWBs) are currently in storage at NTS. However, current storage numbers are representative of the assumption that 143 SWBs will be required to repack all 58 nonstandard boxes. Projections include 2 SWBs from decon activities.

| HQ ID    | NT-W021          | Stream Name | V3XA S | Spheres            |                            |          |                           |                    | Inventor         | y Date 12/31/1994     |
|----------|------------------|-------------|--------|--------------------|----------------------------|----------|---------------------------|--------------------|------------------|-----------------------|
| Local ID | N/A              | Handling    | CH     | Final Waste        | Form Solidified Inorganics | ;        | Waste Matrix Code S5400   | Activity Co        | ncentrations Dec | ayed to CY 2002       |
| Final Wa | ste Form Descrip | otors       |        | _                  |                            | <u>_</u> | Waste Material Parameters |                    | Final Form R     | adionuclides          |
| Categ    | ory: Defense TF  | RU Waste S  | ource: | R&D/R&D Laboratory | Waste                      |          |                           | Average<br>Density |                  | Typical Concentration |

## Waste Volume Detail (m3)

| As-Generated Volumes                         |                    |        |       |       |
|--|--------------------|--------|-------|-------|
| ContainerType                                |                    | Stored | Proj. | Total |
| Sphere/3-ft. dia X 4-ft. dia Stainless Steel |                    | 0.9    | 0.0   | 0.9   |
|  | As-Generated Total | 0.9    | 0.0   | 0.9   |
| Final Form Volumes                           |                    |        |       |       |
| ContainerType                                |                    | Stored | Proj. | Total |
| Standard Waste Box                           |                    | 5.7    | 0.0   | 5.7   |
|  | Final Form Total   | 5.7    | 0.0   | 5.7   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 272.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 5.64E-01                            |  |  |
| Np-237                   | 1.66E-06                            |  |  |
| Pu-238                   | 1.69E-01                            |  |  |
| Pu-239                   | 5.68E+00                            |  |  |
| Pu-240                   | 1.30E+00                            |  |  |
| Pu-241                   | 1.48E+01                            |  |  |
| Pu-242                   | 1.15E-04                            |  |  |
| Th-229                   | 1.59E-14                            |  |  |
| Th-230                   | 6.02E-10                            |  |  |
| Th-232                   | 2.44E-16                            |  |  |
| U-233                    | 4.08E-11                            |  |  |
| U-234                    | 8.20E-06                            |  |  |
| U-235                    | 8.97E-08                            |  |  |
| U-236                    | 6.18E-07                            |  |  |
| U-238                    | 2.78E-13                            |  |  |
| •                        |                                     |  |  |

### **Waste Stream Description**

The two steel vessels are 1-inch thick by 3-feet diameter, weighing about 2700 lbs. each. The vessels contain heterogeneous mixtures of the following materials: Plutonium, D-38, Beryllium metal, Completely burned high explosive, Stainless steel, Brass, Polystyrene foam, Aluminum, Coke (degassed coal), Water absorbed by the coke, Steel, Glass, Epoxy resin, Thermalite (aerated cement block), Plaster, Hortag (fly-ash and clay), Wood, and Krypton-85 tracer gas for leak detection. The UK has had similar vessels in storage for over ten years, but none containing plutonium have ever been opened. Vessels containing D-38 only have been opened, with small amounts of water vapor and some loose debris found inside. The bulk of the materials were found to be trapped within the thick coke layer lining the inner surface of the vessel. No more wastes of this type are planned to be generated.

### **Management Comments**

Internal volume of SWB is assumed to be 1.89 cubic meters; total waste stream volume (external) estimated at 5.678 cu. m., divided by 1.89 = 3 SWBs. Plastic bagging would be used to contain any contamination. This also assumes, although highly unlikely, that the vessels are size-reduced to fit inside SWBs, as opposed to being shipped within TDOPs. Considering FGE within each vessel, two TDOPs could probably be used for shipping this waste stream to WIPP.

## Waste Stream ID: OR-W201

**As-Generated Volumes** 

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | N/A<br>N/A        | Stream Name C | H-TRU Hete  | erogeneous Solids - non-mixed Final Waste Form Heterogeneous Debris | 3 | Waste Matrix Code S5000   | Activity           | / Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|-------------------|---------------|-------------|---|---|---------------------------|--------------------|---------|--------------|-------------------------------------|
| Final Was         | ste Form Descrip  | itors         |             |   |   | Waste Material Parameters |                    |         | Final Form R | adionuclides                        |
| Categ             | ory: Defense TF   | RU Waste Soul | rce: Source | e Unknown   |   |                           | Average            |         |              | Typical                             |
| Waste Vo          | olume Detail (m3) |               |             |   |   | Material Parameter        | Density<br>(kg/m3) |         | Isotope      | Concentration<br>(Ci/m3)            |

| ContainerType      | Stored | Proj. | Total |
|--------------------|--------|-------|-------|
| Drum / 55 gallon   | 0.0    | 57.4  | 57.4  |
| As-Generated Total | 0.0    | 57.4  | 57.4  |
|                    |        |       |       |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 57.4  | 57.4  |
|                    |        |       |       |

| Final Form Total | 0.0 | 57.4 | 57.4 |
|------------------|-----|------|------|

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 330.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| riliai roilii K | Typical       |
|-----------------|---------------|
|                 | Concentration |
| Isotope         | (Ci/m3)       |
| Am-241          | 3.53E+01      |
| Am-243          | 1.42E-04      |
| Cm-244          | 1.33E+00      |
| Cs-137          | 1.39E-04      |
| Np-237          | 7.84E-04      |
| Pu-238          | 2.38E+01      |
| Pu-239          | 1.78E+01      |
| Pu-240          | 1.77E+01      |
| Pu-241          | 7.26E+02      |
| Pu-242          | 1.46E-03      |
| Pu-244          | 3.12E-11      |
| Sr-90           | 4.88E-08      |
| Th-229          | 7.17E-04      |
| Th-230          | 5.49E-05      |
| Th-232          | 4.72E-07      |
| U-233           | 4.50E-01      |
| U-234           | 3.60E-01      |
| U-235           | 4.30E-05      |
| U-236           | 9.09E-06      |
| U-238           | 3.77E-04      |

## **Waste Stream Description**

Treated CH-TRU dibris from the FWENC facility. Alpha contaminated waste not meeting the definition of TRU will be segregated out from currently stored inventory during the treatment process and will be disposed of at NTS.

## **Management Comments**

This waste stream includes OR-W086, OR-W053, OR-W041, OR-W093, OR-W102

# Waste Stream ID: OR-W202 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name CH-TRU Heterogeneous Solids - mixed

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002

## Final Waste Form Descriptors

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.0    | 278.1 | 278.1 |
|                      | As-Generated Total | 0.0    | 278 1 | 278 1 |

| Stored | Proj. | Total |
|--------|-------|-------|
| 0.0    | 278.1 | 278.1 |
|        |       |       |

**Final Form Total** 0.0 278.1 278.1

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 319.00                        |
| Packaging Material, Steel      | 330.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

| rinai Forni Radionuciides |                                     |  |  |
|---------------------------|-------------------------------------|--|--|
| Isotope                   | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                    | 1.62E+00                            |  |  |
| Am-243                    | 3.35E-02                            |  |  |
| Cm-244                    | 5.69E+00                            |  |  |
| Cs-137                    | 1.32E+01                            |  |  |
| Np-237                    | 2.72E-03                            |  |  |
| Pu-238                    | 1.42E+01                            |  |  |
| Pu-239                    | 9.45E-01                            |  |  |
| Pu-240                    | 9.17E-01                            |  |  |
| Pu-241                    | 4.81E+00                            |  |  |
| Pu-242                    | 1.02E-03                            |  |  |
| Pu-244                    | 1.30E-11                            |  |  |
| Sr-90                     | 7.81E+00                            |  |  |
| Th-229                    | 6.60E-04                            |  |  |
| Th-230                    | 1.42E-07                            |  |  |
| Th-232                    | 4.72E-06                            |  |  |
| U-233                     | 4.14E-01                            |  |  |
| U-234                     | 7.70E-04                            |  |  |
| U-235                     | 2.84E-05                            |  |  |
| U-236                     | 1.04E-06                            |  |  |
| U-238                     | 1.64E-04                            |  |  |
|                           |                                     |  |  |

## **Waste Stream Description**

TREATED CH-TRU DEBRIS FROM THE FWENC FACILITY. INCLUDES WASTE CONTAINERS FROM NFS. MIXED WASTE TREATED TO LDR OR MACROENCAPSULATED.

## **Management Comments**

This waste stream includes OR-W044, OR-W088, OR-W045, OR-W091, OR-W047, OR-W48

### Appendix J **OR-W203** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name N/A Inventory Date 9/30/2002 HQ ID N/A N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002 Local ID

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.0    | 95.1  | 95.1  |
|                      | As-Generated Total | 0.0    | 95.1  | 95.1  |

| Final Form Volumes |                         |        |       |       |
|--------------------|-------------------------|--------|-------|-------|
| ContainerType      |                         | Stored | Proj. | Total |
| 55 Gallon Drum     |                         | 0.0    | 95.1  | 95.1  |
|                    |                         |        |       |       |
|                    | <b>Final Form Total</b> | 0.0    | 95.1  | 95.1  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 330.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Final Form Radionucildes |                       |  |  |
|--------------------------|-----------------------|--|--|
|                          | Typical Concentration |  |  |
| Isotope                  | (Ci/m3)               |  |  |
| Am-241                   | 1.03E-02              |  |  |
| Am-243                   | 6.43E-04              |  |  |
| Cm-244                   | 5.79E-01              |  |  |
| Cs-137                   | 2.27E-02              |  |  |
| Np-237                   | 5.38E-08              |  |  |
| Pu-238                   | 5.96E-03              |  |  |
| Pu-239                   | 1.24E-04              |  |  |
| Pu-240                   | 7.30E-03              |  |  |
| Pu-241                   | 3.57E-02              |  |  |
| Pu-242                   | 8.48E-05              |  |  |
| Pu-244                   | 2.73E-12              |  |  |
| Sr-90                    | 1.66E-01              |  |  |
| Th-229                   | 1.02E-15              |  |  |
| Th-230                   | 2.41E-11              |  |  |
| Th-232                   | 1.35E-18              |  |  |
| U-233                    | 1.94E-12              |  |  |
| U-234                    | 3.08E-07              |  |  |
| U-235                    | 2.08E-12              |  |  |
| U-236                    | 3.35E-09              |  |  |
| U-238                    | 2.17E-13              |  |  |
|                          |                       |  |  |

**Waste Stream Description** 

Hot Cell Debris Waste

**Management Comments** 

Inventory Date 9/30/2002

#### Appendix J Waste Stream ID: OR-W204 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name PCB contaminated CH-TRU debris HQ ID N/A N/A CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Local ID Handling **Final Waste Form Descriptors** Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) **As-Generated Volumes** ContainerType Stored Proj. Total Drum / 55 gallon 0.0 18.3 18.3

As-Generated Total

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 18.3  | 18.3  |

Final Form Total 18.3 0.0 18.3

0.0

18.3

18.3

#### Waste Material Parameters

| waste Material Parameters      |                               |  |
|--------------------------------|-------------------------------|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |
| Iron-Base Metal/Alloys         | 96.20                         |  |
| Aluminum-Base Metal/Alloys     | 0.80                          |  |
| Other Metal/Alloys             | 10.65                         |  |
| Other Inorganic Materials      | 2.40                          |  |
| Cellulosics                    | 80.90                         |  |
| Rubber                         | 7.40                          |  |
| Plastics                       | 64.90                         |  |
| Solidified, Inorganic Matrix   | 0.00                          |  |
| Cement (Solidified)            | 0.00                          |  |
| Vitrified                      | 0.00                          |  |
| Solidified, Organic Matrix     | 1.50                          |  |
| Soils                          | 0.00                          |  |
| Packaging Material, Steel      | 330.00                        |  |
| Packaging Material, Plastic    | 0.00                          |  |
| Packaging Material, Lead       | 0.00                          |  |
| Packaging Material, Steel Plug | 0.00                          |  |

#### **Final Form Radionuclides**

Activity Concentrations Decayed to CY 2002

| rinai Form Radionuciides |               |  |
|--------------------------|---------------|--|
|                          | Typical       |  |
| la atama                 | Concentration |  |
| Isotope                  | (Ci/m3)       |  |
| Am-241                   | 1.33E-02      |  |
| Cm-244                   | 1.25E-05      |  |
| Cs-137                   | 3.89E-02      |  |
| Np-237                   | 7.44E-08      |  |
| Pu-238                   | 3.49E-02      |  |
| Pu-239                   | 1.10E-02      |  |
| Pu-240                   | 7.47E-03      |  |
| Pu-242                   | 1.99E-08      |  |
| Sr-90                    | 3.74E-04      |  |
| Th-229                   | 2.93E-05      |  |
| Th-230                   | 1.41E-10      |  |
| Th-232                   | 1.74E-18      |  |
| U-233                    | 1.84E-02      |  |
| U-234                    | 1.81E-06      |  |
| U-235                    | 3.01E-06      |  |
| U-236                    | 3.95E-09      |  |
| U-238                    | 1.55E-05      |  |

**Waste Stream Description** 

PCB contamination 240ppm.

**Management Comments** 

Waste Stream ID: OR-W211

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A              | Stream Name RH TRU Hete |                                       |                           |                    |                | ry Date 9/30/2002        |
|----------|------------------|-------------------------|---------------------------------------|---------------------------|--------------------|----------------|--------------------------|
| Local ID | N/A              | Handling RH             | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5000   | Activity Cond      | entrations Dec | ayed to CY 2002          |
|          | ste Form Descrip |                         |                                       | Waste Material Parameters |                    | Final Form R   | adionuclides             |
| Categ    | ory: Defense TR  | RU Waste Source: N/A    |                                       |                           | Average            |                | Typical                  |
| Waste Vo | lume Detail (m3) |                         |                                       | Material Parameter        | Density<br>(kg/m3) | Isotope        | Concentration<br>(Ci/m3) |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 76.5  | 76.5  |
|                      | As-Generated Total | 0.0    | 76.5  | 76.5  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 76.5  | 76.5  |
|                    | Final Form Total | 0.0    | 76.5  | 76.5  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 900.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Concentration<br>(Ci/m3) |
|---------|--------------------------|
| Am-241  | 1.93E-02                 |
| Am-243  | 1.22E-03                 |
| Cm-244  | 1.10E+00                 |
| Cs-137  | 4.27E-02                 |

1.01E-07 1.16E-03

Np-237

Pu-238

#### Pu-239 2.34E-04 Pu-240 1.38E-02 Pu-241 6.75E-02 Pu-242 5.30E-05 Pu-244 5.14E-12 3.14E-01 Sr-90 Th-229 1.92E-15 Th-230 4.68E-12 Th-232 2.55E-18 U-233 3.65E-12 U-234 5.99E-08 U-235 3.91E-12 U-236 6.31E-09 U-238 1.35E-13

## **Waste Stream Description**

This waste stream consists of RH TRU waste which is classified as contaminated equipment, decontaminated debris or dry solids. The physical form is solid. The radionuclide information has been updated with information from a 1997 analysis campaign.

## **Management Comments**

This waste stream includes OR-W094, OR-W054, OR-W101, OR-W106

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name N/A Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

OR-W212

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| RH Canister          |                   | 0.0    | 193.1 | 193.1 |
| A                    | s-Generated Total | 0.0    | 193.1 | 193.1 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| RH Canister        | 0.0    | 193.1 | 193.1 |
|                    |        |       |       |

**Final Form Total** 0.0 193.1 193.1

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 900.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

|         | Typical       |
|---------|---------------|
|         | Concentration |
| Isotope | (Ci/m3)       |
| Am-241  | 1.93E-02      |
| Am-243  | 1.22E-03      |
| Cm-244  | 1.10E+00      |
| Cs-137  | 4.27E-02      |
| Np-237  | 1.01E-07      |
| Pu-238  | 1.16E-03      |
| Pu-239  | 2.34E-04      |
| Pu-240  | 1.38E-02      |
| Pu-241  | 6.75E-02      |
| Pu-242  | 5.30E-05      |
| Pu-244  | 5.14E-12      |
| Sr-90   | 3.14E-01      |
| Th-229  | 1.92E-15      |
| Th-230  | 4.68E-12      |
| Th-232  | 2.55E-18      |
| U-233   | 3.65E-12      |
| U-234   | 5.99E-08      |
| U-235   | 3.91E-12      |
| U-236   | 6.31E-09      |
| U-238   | 1.35E-13      |
|         |               |

## **Waste Stream Description**

Radionuclides from updated model. Mixed waste treated to LDR.

## **Management Comments**

# Waste Stream ID: OR-W213 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name ER RH TRU Heterogeneous Soils Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Soils Waste Matrix Code S4200 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 196.7 | 196.7 |
|                      | As-Generated Total | 0.0    | 196.7 | 196.7 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 196.7 | 196.7 |
|                    | Final Form Total | 0.0    | 196.7 | 196.7 |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1300.00                       |
| Packaging Material, Steel      | 900.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |
|-------------------------------------|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| 5.33E-08                            |  |  |  |
| 3.42E-11                            |  |  |  |
| 1.58E-09                            |  |  |  |
| 1.61E-06                            |  |  |  |
| 8.47E-11                            |  |  |  |
| 2.34E-08                            |  |  |  |
| 5.58E-08                            |  |  |  |
| 5.58E-08                            |  |  |  |
| 3.62E-08                            |  |  |  |
| 3.03E-11                            |  |  |  |
| 1.17E-08                            |  |  |  |
| 8.50E-10                            |  |  |  |
| 1.58E-10                            |  |  |  |
| 3.33E-10                            |  |  |  |
| 2.32E-09                            |  |  |  |
| 1.99E-09                            |  |  |  |
| 1.20E-11                            |  |  |  |
| 3.98E-11                            |  |  |  |
|                                     |  |  |  |

**Waste Stream Description** 

This waste is made up of soils.

**Management Comments** 

# Waste Stream ID: OR-W214 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID N/A Stream Name PCB Contaminated RH-TRU Debris Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5000 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: N/A

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 1.8   | 1.8   |
|                      | As-Generated Total | 0.0    | 1.8   | 1.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 1.8   | 1.8   |
|                    | Final Form Total | 0.0    | 1.8   | 1.8   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 96.20                         |
| Aluminum-Base Metal/Alloys     | 0.80                          |
| Other Metal/Alloys             | 10.65                         |
| Other Inorganic Materials      | 2.40                          |
| Cellulosics                    | 80.90                         |
| Rubber                         | 7.40                          |
| Plastics                       | 64.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.50                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 900.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 1.24E-01                            |  |  |
| Cm-244                   | 6.15E-03                            |  |  |
| Cs-137                   | 9.72E-01                            |  |  |
| Np-237                   | 2.34E-05                            |  |  |
| Pu-238                   | 1.83E-02                            |  |  |
| Pu-239                   | 2.01E-01                            |  |  |
| Pu-240                   | 1.56E-05                            |  |  |
| Sr-90                    | 1.36E-01                            |  |  |
| Th-229                   | 3.73E-06                            |  |  |
| Th-230                   | 8.64E-11                            |  |  |
| Th-232                   | 1.28E-21                            |  |  |
| U-233                    | 2.34E-03                            |  |  |
| U-234                    | 1.11E-06                            |  |  |
| U-235                    | 3.37E-09                            |  |  |
| U-236                    | 4.35E-12                            |  |  |
| U-238                    | 3.46E-03                            |  |  |

**Waste Stream Description** PCB contamination 240 ppm

**Management Comments** 

#### Waste Stream ID: OR-W215

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID  | N/A<br>N/A                         | Stream Name<br>Handling | RH-TR<br>RH | U Solidified Sludge Final Waste Form Solidified Inorganics | Waste Matrix Code S3121 | Activity Cor                  |              | y Date 9/30/2002<br>ayed to CY 2002 |
|--|------------------------------------|-------------------------|-------------|--|-------------------------|-------------------------------|--------------|-------------------------------------|
| Final Waste Form Descriptors Waste Material Parameters Fin |                                    |                         |             |  |                         | Final Form R                  | adionuclides |                                     |
|  | pory: Defense TF olume Detail (m3) |                         | urce:       | Pollution Control or Waste Treatment Process               | Material Parameter      | Average<br>Density<br>(kg/m3) | Isotope      | Typical<br>Concentration<br>(Ci/m3) |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 192.2 | 192.2 |
|                      | As-Generated Total | 0.0    | 192.2 | 192.2 |
| Final Form Volumes   |                    |        |       |       |

| ContainerType |                  | Stored | Proj. | Total |
|---------------|------------------|--------|-------|-------|
| RH Canister   |                  | 0.0    | 192.2 | 192.2 |
|               | Final Form Total | 0.0    | 192 2 | 192 2 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 1710.00                       |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 900.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form R | Final Form Radionuclides            |  |  |  |  |
|--------------|-------------------------------------|--|--|--|--|
| Isotope      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241       | 1.65E+00                            |  |  |  |  |
| Cm-244       | 4.63E+00                            |  |  |  |  |
| Cs-137       | 8.30E+01                            |  |  |  |  |
| Np-237       | 9.16E-06                            |  |  |  |  |
| Pu-238       | 1.28E+00                            |  |  |  |  |
| Pu-239       | 7.05E-01                            |  |  |  |  |
| Pu-240       | 1.59E-01                            |  |  |  |  |
| Pu-241       | 6.88E-01                            |  |  |  |  |
| Pu-242       | 2.96E-04                            |  |  |  |  |
| Pu-244       | 3.34E-05                            |  |  |  |  |
| Sr-90        | 2.92E+02                            |  |  |  |  |
| Th-229       | 1.12E-03                            |  |  |  |  |
| Th-230       | 1.13E-05                            |  |  |  |  |
| Th-232       | 5.30E-03                            |  |  |  |  |
| U-233        | 7.00E-01                            |  |  |  |  |
| U-234        | 7.41E-02                            |  |  |  |  |
| U-235        | 1.44E-03                            |  |  |  |  |
| U-236        | 2.55E-04                            |  |  |  |  |
| U-238        | 6.64E-02                            |  |  |  |  |
| U-236        | 2.55E-04                            |  |  |  |  |

#### **Waste Stream Description**

Waste is treated stream from a mixture from the Melton Valley Storage Tanks (MVST), MVST, Capacity Increase Project Tanks, and Bethel Valley Evaporator Storage Tanks. Waste from the Old Hydrofracture (OHF) and Gunite and Associated Tanks (GAAT) was previously mixed into the MVST. Additional input of 37Kg of U233 from ER waste stream.

#### **Management Comments**

WASTE STREAM INCLUDES, OR-W046, OR-W098

# Waste Stream ID: PA-A015 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID PA-A015 Stream Name Transuranic - Solid Inventory Date 9/30/2002

Local ID PA-A015 Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S3129 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes       |                    |        |       |       |
|----------------------------|--------------------|--------|-------|-------|
| ContainerType              |                    | Stored | Proj. | Total |
| Drum/55-gallon in overpack |                    | 2.1    | 0.0   | 2.1   |
|                            | As-Generated Total | 2.1    | 0.0   | 2.1   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 5.7    | 5.7   | 11.3  |
|                    | -      |       |       |

**Final Form Total** 5.7 5.7 11.3

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 23.30                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 212.00                        |
| Packaging Material, Plastic    | 17.50                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Np-237  | 3.65E-03                            |
| Pu-239  | 2.42E-02                            |
| Th-229  | 1.25E-10                            |
| Th-230  | 4.90E-03                            |
| U-233   | 2.05E-07                            |
| U-235   | 3.10E-10                            |

#### **Waste Stream Description**

Transuranic Waste Class C, and Transuranic Waste Basic, class C filter/White Powder

#### **Management Comments**

N/A

2.01E-09

5.82E-16

2.43E-08

3.67E-05

2.85E-07

1.96E-06

1.26E-12

### Waste Stream ID: RF-MT0001

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                   |                  | TRUV                           | VASTE       | BASELII      | NE INVENT | ORY WASTE PROFILE            |                               |                 |                                     |
|-------------------|------------------|--------------------------------|-------------|--------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID             | RF-W010          | Stream Name Aqueous Sludge/TRM |             |              |           |                              |                               |                 | ory Date 9/30/2002                  |
| Local ID          | None             | Handling CH Final Wa           | ste Form    | Solidified I | norganics | Waste Matrix Code S3121      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa          | ste Form Descrip | otors                          |             |              |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Categ<br>Waste Vo | pory: Defense Ti | ]                              | or Waste Tr | reatment F   | Process   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge             | nerated Volumes  |                                |             |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 2.40E+02                            |
|                   | inerType         |                                | Stored      | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 9.37E-04                            |
|                   | 55 gallon        |                                | 7.5         |              |           | Other Metal/Alloys           | 0.00                          | Pu-238          | 1.03E+00                            |
|                   | 85 gallon        |                                | 0.6         | 0.0          | 0.6       | Other Inorganic Materials    | 0.00                          | Pu-239          | 2.41E+01                            |
|                   | 3                |                                |             |              |           | Cellulosics                  | 0.00                          | Pu-240          | 5.51E+00                            |
|                   |                  | As-Generated Total             | 8.1         | 0.0          | 8.1       | Rubber                       | 0.00                          | Pu-241          | 7.92E+01                            |
| Final F           | Form Volumes     |                                |             |              |           | Plastics                     | 8.59                          | Pu-242          | 6.97E-04                            |
|                   | inerType         |                                | Stored      | Proi         | Total     | Solidified, Inorganic Matrix | 414.81                        | Th-229          | 9.13E-12                            |

0.6

8.1

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Vitrified

Soils

0.00

0.00

0.00

0.00

134.76

24.11

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

55 Gallon Drum

85 Gallon Drum

This waste stream is a solid cemented sludge. It could have small amounts of free liquids in the bottom of the container.

Final Form Total

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and two bag liners.

7.5

0.6

8.1

0.0

0.0

0.0

# Waste Stream ID: RF-MT0002 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W010 Stream Name Aqueous Sludge/TRM Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3121 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Waste Treatment

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.6    | 0.0   | 0.6   |
|                    |        | 1     |       |

 Final Form Total
 0.6
 0.0
 0.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 217.70                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 196.00                        |
| Cement (Solidified)            | 130.60                        |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 64.80                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                   | 2.40E+02                            |  |  |  |  |  |
| Np-237                   | 9.37E-04                            |  |  |  |  |  |
| Pu-238                   | 1.03E+00                            |  |  |  |  |  |
| Pu-239                   | 2.41E+01                            |  |  |  |  |  |
| Pu-240                   | 5.51E+00                            |  |  |  |  |  |
| Pu-241                   | 7.92E+01                            |  |  |  |  |  |
| Pu-242                   | 6.97E-04                            |  |  |  |  |  |
| Th-229                   | 9.13E-12                            |  |  |  |  |  |
| Th-230                   | 2.01E-09                            |  |  |  |  |  |
| Th-232                   | 5.82E-16                            |  |  |  |  |  |
| U-233                    | 2.43E-08                            |  |  |  |  |  |
| U-234                    | 3.67E-05                            |  |  |  |  |  |
| U-235                    | 2.85E-07                            |  |  |  |  |  |
| U-236                    | 1.96E-06                            |  |  |  |  |  |
| U-238                    | 1.26E-12                            |  |  |  |  |  |

**Waste Stream Description** 

Aqueous waste treatment sludge.

#### **Management Comments**

New Waste Stream being added to TWBIR

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W013 Stream Name Solidified Organics/TRM Inventory Date 9/30/2002
Local ID IDC 801 Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3290 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

RF-MT0003

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 1.7    | 0.0   | 1.7   |
| As-Generated Tota    | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 29.36                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 2.91                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.80E-01                            |
| Np-237  | 3.96E-07                            |
| Pu-238  | 8.84E-02                            |
| Pu-239  | 2.07E+00                            |
| Pu-240  | 4.74E-01                            |
| Pu-241  | 6.81E+00                            |
| Pu-242  | 6.00E-05                            |
| Th-229  | 2.16E-15                            |
| Th-230  | 1.73E-10                            |
| Th-232  | 5.00E-17                            |
| U-233   | 7.32E-12                            |
| U-234   | 3.16E-06                            |
| U-235   | 7.29E-07                            |
| U-236   | 1.69E-07                            |
| U-238   | 1.09E-13                            |

#### **Waste Stream Description**

This waste stream consists of a cemented solid, with some free liquids. It can also have some small chunks in it.

#### **Management Comments**

The waste is stored in 55-gallon carbon steel drums with a rigid polyethylene liner and one or two bag liners.

#### RF-MT0007 Waste Stream ID:

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

|                   |                  |                                       | INO WAO                       | ,, L D  | AULLII       | 4E 1144E141 | OKT WAGTET KOTTEE          |                               |            |  |
|-------------------|------------------|---------------------------------------|-------------------------------|---------|--------------|-------------|----------------------------|-------------------------------|------------|--|
| HQ ID<br>Local ID | RF-W010<br>None  | Stream Name Bypass Sludge Handling CH | Bldg 374/TRM<br>Final Waste F |         | Solidified I | norganics   | Waste Matrix Code S3190    | Activity Co                   |            | tory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Wa          | ste Form Descrip | tors                                  |                               |         |              |             | Waste Material Parameters  |                               | Final Form | Radionuclides                            |
| Categ<br>Waste Vo | pory: Defense TF |                                       | n Control or Wa               | aste Tr | eatment F    | Process     | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)      |
| As-Ge             | nerated Volumes  |                                       |                               |         |              |             | Iron-Base Metal/Alloys     | 0.00                          | Am-241     | 2.03E+00                                 |
|                   | inerType         |                                       | Sto                           | ored    | Proi.        | Total       | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 7.91E-06                                 |
|                   | 55 gallon        |                                       |                               | 0.8     | 0.0          | 0.8         | Other Metal/Alloys         | 0.00                          | Pu-239     | 5.16E-01                                 |
|                   |                  |                                       | <u> </u>                      |         |              |             | Other Inorganic Materials  | 217.70                        | Pu-240     | 1.18E-01                                 |
|                   |                  | As-Generat                            | ted Total                     | 8.0     | 0.0          | 8.0         | Cellulosics                | 0.00                          | Pu-241     | 1 58F+00                                 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

| Material Parameter             | (kg/m3) |
|--------------------------------|---------|
| Iron-Base Metal/Alloys         | 0.00    |
| Aluminum-Base Metal/Alloys     | 0.00    |
| Other Metal/Alloys             | 0.00    |
| Other Inorganic Materials      | 217.70  |
| Cellulosics                    | 0.00    |
| Rubber                         | 0.00    |
| Plastics                       | 0.00    |
| Solidified, Inorganic Matrix   | 196.00  |
| Cement (Solidified)            | 130.60  |
| Vitrified                      | 0.00    |
| Solidified, Organic Matrix     | 0.00    |
| Soils                          | 0.00    |
| Packaging Material, Steel      | 131.00  |
| Packaging Material, Plastic    | 64.80   |
| Packaging Material, Lead       | 0.00    |
| Packaging Material, Steel Plug | 0.00    |

| Isotope | Concentration<br>(Ci/m3) |
|---------|--------------------------|
| Am-241  | 2.03E+00                 |
| Np-237  | 7.91E-06                 |
| Pu-239  | 5.16E-01                 |
| Pu-240  | 1.18E-01                 |
| Pu-241  | 1.58E+00                 |
| Th-229  | 7.68E-14                 |
| Th-232  | 1.24E-17                 |
| U-233   | 2.05E-10                 |
| U-235   | 6.11E-09                 |
| U-236   | 4.20E-08                 |
|         |                          |

#### **Waste Stream Description**

This waste stream is a solid cemented sludge. It could have small amounts of free liquids in the bottom of the container.

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and two bag liners.

# Waste Stream ID: RF-MT0089 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-MT0089         | Stream Name | N/A    |             |                                       |   |                           |                    |        | Inventory      | / Date 9/30/         | 2002 |
|----------|-------------------|-------------|--------|-------------|---------------------------------------|---|---------------------------|--------------------|--------|----------------|----------------------|------|
| Local ID | N/A               | Handling    | CH     | Fi          | inal Waste Form Solidified Inorganics |   | Waste Matrix Code S3229   | Activity           | Concer | ntrations Deca | yed to CY            | 2002 |
|          | ste Form Descrip  |             |        | <del></del> |                                       | _ | Waste Material Parameters |                    |        | Final Form Ra  | adionuclides         | s    |
| Categ    | ory: Defense TF   | RU Waste So | ource: | N/A         |                                       |   |                           | Average            |        |                | Typical              |      |
| Waste Vo | olume Detail (m3) | )           |        |             |                                       |   | Material Parameter        | Density<br>(kg/m3) |        | Isotope        | Concentra<br>(Ci/m3) |      |

| As-Generated Volumes |     |      |       |       |
|----------------------|-----|------|-------|-------|
| ContainerType        | Sto | ored | Proj. | Total |
| 8802 Can             |     | 0.0  | 0.0   | 0.0   |
| 8804 Can             |     | 0.0  | 0.0   | 0.0   |

As-Generated Total 0.0 0.0 0.0

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.4    | 0.0   | 0.4   |

Final Form Total 0.4 0.0 0.4

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 701.69                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 17.18                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Typical |               |  |  |  |  |  |
|---------|---------------|--|--|--|--|--|
|         | Concentration |  |  |  |  |  |
| Isotope | (Ci/m3)       |  |  |  |  |  |
| Am-241  | 7.02E-03      |  |  |  |  |  |
| Np-237  | 1.50E-08      |  |  |  |  |  |
| Pu-238  | 3.53E-03      |  |  |  |  |  |
| Pu-239  | 8.27E-02      |  |  |  |  |  |
| Pu-240  | 1.89E-02      |  |  |  |  |  |
| Pu-241  | 2.72E-01      |  |  |  |  |  |
| Pu-242  | 2.39E-06      |  |  |  |  |  |
| Th-229  | 7.90E-17      |  |  |  |  |  |
| Th-230  | 6.92E-12      |  |  |  |  |  |
| Th-232  | 2.00E-18      |  |  |  |  |  |
| U-233   | 2.73E-13      |  |  |  |  |  |
| U-234   | 1.26E-07      |  |  |  |  |  |
| U-235   | 9.79E-10      |  |  |  |  |  |
| U-236   | 6.74E-09      |  |  |  |  |  |
| U-238   | 4.34E-15      |  |  |  |  |  |

#### **Waste Stream Description**

N/A

#### **Management Comments**

#### Appendix J Waste Stream ID: RF-MT0090 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RF-MT0090<br>N/A                     | Stream Name N/A Handling CH | Final Waste Form Solidified Inorganics | Waste Matrix Code S3119   | Activity           | Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|--------------------------------------|-----------------------------|--|---------------------------|--------------------|-------|--------------|-------------------------------------|
| Final Was         | ste Form Descript<br>ory: Defense TR |                             | N/A                                    | Waste Material Parameters | Average<br>Density |       | Final Form R | adionuclides Typical Concentration  |
| Waste Vo          | lume Detail (m3)                     |                             |  | Material Parameter        | (kg/m3)            |       | Isotope      | (Ci/m3)                             |

Total

2.5

2.5

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon POCs     | 2.     | 0.0   | 2.5   |
|                    |        |       |       |

As-Generated Total

|                  | Olorod | oj. | iotai |
|------------------|--------|-----|-------|
|                  | 2.5    | 0.0 | 2.5   |
| _                |        |     |       |
| Final Form Total | 2.5    | 0.0 | 2.5   |

Stored

2.5

2.5

Proj.

0.0

0.0

#### Iron-Base Metal/Alloys 4.30 Aluminum-Base Metal/Alloys 0.00 Other Metal/Alloys 5.73 Other Inorganic Materials 8.59 Cellulosics 167.07 Rubber 0.00 Plastics 1.15 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 0.00 0.00 Soils Packaging Material, Steel 525.22 Packaging Material, Plastic 23.87 Packaging Material, Lead 0.00 0.00 Packaging Material, Steel Plug

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 5.34E+00                            |  |  |  |  |
| Np-237                   | 1.89E-05                            |  |  |  |  |
| Pu-238                   | 8.34E-01                            |  |  |  |  |
| Pu-239                   | 3.54E+01                            |  |  |  |  |
| Pu-240                   | 8.03E+00                            |  |  |  |  |
| Pu-241                   | 4.53E+01                            |  |  |  |  |
| Pu-242                   | 4.91E-04                            |  |  |  |  |
| Th-229                   | 1.73E-13                            |  |  |  |  |
| Th-230                   | 1.63E-09                            |  |  |  |  |
| Th-232                   | 8.48E-16                            |  |  |  |  |
| U-233                    | 4.72E-10                            |  |  |  |  |
| U-234                    | 2.98E-05                            |  |  |  |  |
| U-235                    | 4.19E-07                            |  |  |  |  |
| U-236                    | 2.86E-06                            |  |  |  |  |
| U-238                    | 8.88E-13                            |  |  |  |  |

#### **Waste Stream Description**

As-Generated Volumes

ContainerType

POC / 55 gallon

"Plutonium tetrafluoride that meets the chemical standards for plutonium fluoride reduction. The material is a pink to brown colored powdered solid, found as a uniform powder or in clumps."

#### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: RF-MT0091 Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-MT0091 Stream Name N/A                                  |          |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
|  | ste Form | Solidified I | norganics | Waste Matrix Code S3119      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys       | 4.61                          | Am-241     | 5.04E+00                            |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.69E-05                            |
| 8801 Can   | 0.0      |              |           | Other Metal/Alloys           | 5.73                          | Pu-238     | 1.42E+00                            |
| 8802 Can   | 0.0      |              |           | Other Inorganic Materials    | 8.43                          | Pu-239     | 3.98E+01                            |
| POC / 55 gallon  | 148.1    | 0.0          | 148.1     | Cellulosics                  | 167.07                        | Pu-240     | 9.09E+00                            |
| Slip Lid Can   | 0.0      | 0.0          |           | Rubber                       | 0.00                          | Pu-241     | 6.27E+01                            |
|  |          |              |           | Plastics                     | 1.15                          | Pu-242     | 5.65E-04                            |
| As-Generated Total   | 148.1    | 0.0          | 148.1     | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.49E-13                            |
| Final Form Volumes   |          |              |           | Cement (Solidified)          | 0.00                          | Th-230     | 5.00E-09                            |
| ContainerType  | Stored   | Proj.        | Total     | Vitrified                    | 0.00                          | Th-232     | 9.59E-16                            |
| 55 Gallon Drum   | 0.4      | 0.0          |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 4.13E-10                            |
| 55 Gallon POCs   | 148.4    |              |           | Soils                        | 0.00                          | U-234      | 7.13E-05                            |
| oo dallah i dad  | 1 10.1   | 0.0          | 1 10.1    | Packaging Material, Steel    | 524.11                        | U-235      | 1.13E-06                            |
| Final Form Total   | 148.8    | 0.0          | 148.8     | Packaging Material, Plastic  | 23.87                         | U-236      | 3.23E-06                            |
|  |          |              |           | Packaging Material, Lead     | 0.00                          | U-238      | 5.87E-09                            |

#### **Waste Stream Description**

"Plutonium tetrafluoride that has become contaminated and does not meet the chemical standards for plutonium fluoride reduction. The material is a beige or pink to brown colored powdered solid, found as a uniform powder or in clumps."

#### **Management Comments**

Waste Stream ID: RF-MT0092

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-MT0092 Stream Name N/A                                  |          |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
|  | ste Form | Solidified I | norganics | Waste Matrix Code S3119      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys       | 4.30                          | Am-241     | 5.06E+00                            |
| ContainerType  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.71E-05                            |
| POC / 55 gallon  | 21.4     | 0.0          |           | Other Metal/Alloys           | 5.73                          | Pu-238     | 1.24E+00                            |
|  | l        |              |           | Other Inorganic Materials    | 8.91                          | Pu-239     | 3.95E+01                            |
| As-Generated Total   | 21.4     | 0.0          | 21.4      | Cellulosics                  | 167.07                        | Pu-240     | 9.18E+00                            |
| Final Form Volumes   |          |              |           | Rubber                       | 0.00                          | Pu-241     | 6.03E+01                            |
| ContainerType  | Stored   | Proj.        | Total     | Plastics                     | 1.15                          | Pu-242     | 5.87E-04                            |
| 55 Gallon POCs   | 21.5     | 0.0          | 21.5      | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.52E-13                            |
|  |          |              |           | Cement (Solidified)          | 0.00                          | Th-230     | 2.42E-09                            |
| Final Form Total   | 21.5     | 0.0          | 21.5      | Vitrified                    | 0.00                          | Th-232     | 9.68E-16                            |
|  |          |              |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 4.18E-10                            |
|  |          |              |           | Soils                        | 0.00                          | U-234      | 4.42E-05                            |
|  |          |              |           | Packaging Material, Steel    | 525.22                        | U-235      | 4.67E-07                            |
|  |          |              |           | Packaging Material, Plastic  | 23.87                         | U-236      | 3.27E-06                            |

#### **Waste Stream Description**

"Solids recovered from filtration of solution containing non-specification fluoride dissolved in heated nitric acid. The material is a beige or pink to brown colored powdered solid, found as a uniform powder or in clumps."

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

1.06E-12

#### **Management Comments**

#### Waste Stream ID: RF-MT0093

### Appendix J TOU WASTE BASELINE INVENTORY WASTE DOCEILE

| THO WASTE BASELINE INVE  | MONT WASTET KOTTEE                         |   |
|--|--|---|
| HQ ID RF-W096 Stream Name Process Residues/TRM Local ID N/A Handling CH Final Waste Form Solidified Inorganics | Waste Matrix Code S3119 Activity Con       | Inventory Date 9/30/2002 centrations Decayed to CY 2002 |
| Final Waste Form Descriptors   | Waste Material Parameters                  | Final Form Radionuclides                                |
| Category: Defense TRU Waste Source: Recovery Operations  Waste Volume Detail (m3)                              | Average Density Material Parameter (kg/m3) | Typical Concentration (Ci/m3)                           |
| As-Generated Volumes   | Iron-Base Metal/Alloys 4.30                | Am-241 6.40E+00   |
| ContainerType Stored Proj. Total   | Aluminum-Base Metal/Alloys 0.00            | Np-237 5.39E-05   |
| POC / 55 gallon 23.3 0.0 23.3  | Other Metal/Alloys 5.73                    | Pu-238 1.17E+00   |
|  | Other Inorganic Materials 8.95             | Pu-239 3.92E+01   |
| As-Generated Total         23.3         0.0         23.3   | Cellulosics 167.07                         | Pu-240 9.27E+00   |
| Final Form Volumes   | Rubber 0.00                                | Pu-241 4.71E+01   |

Total

#### 23.3 0.0 23.3 23.3 23.3 0.0 Final Form Total

Stored

Proj.

### Plastics 1.15 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 Vitrified 0.00 Solidified, Organic Matrix 0.00 0.00 Soils Packaging Material, Steel 525.22 Packaging Material, Plastic 23.87 Packaging Material, Lead 0.00 Packaging Material, Steel Plug 0.00

# Pu-242 6.16E-04

1.12E-12

2.30E-09

9.78E-16

2.18E-09

4.19E-05

4.64E-07

3.30E-06

1.12E-12

Th-229

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

ContainerType

55 Gallon POCs

"Sodium fluoride pellets contaminated with plutonium hexafluoride. This material is beige or pink to brown colored pellets with similarly colored powdered solids. It may be found as uniform pellets, in degraded clumps, or in a powder"

#### **Management Comments**

New Waste Stream being added to TWBIR

1.62E-09

7.11E-16

4.42E-10

2.95E-05

3.88E-07

2.40E-06

6.11E-13

# Waste Stream ID: RF-MT0097 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

**Final Form Total** 

| _   |           |            |            |                              |                               |            |   |
|---|-----------|------------|------------|------------------------------|-------------------------------|------------|---|
| HQ ID         RF-MT0097         Stream Name N/A           Local ID         N/A         Handling CH         Final Wa | aste Form | Solidified | Inorganics | Waste Matrix Code S3119      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |           |            |            | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)  |           |            |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |           |            |            | Iron-Base Metal/Alloys       | 11.46                         | Am-241     | 4.99E+00                                |
| ContainerType   | Stored    | Proj.      | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.77E-05                                |
| POC / 55 gallon   | 1.5       |            |            | Other Metal/Alloys           | 5.73                          | Pu-238     | 8.26E-01                                |
| . 00 / 00 gamon   |           | 0.0        |            | Other Inorganic Materials    | 6.68                          | Pu-239     | 3.28E+01                                |
| As-Generated Total  | 1.5       | 0.0        | 1.5        | Cellulosics                  | 167.07                        | Pu-240     | 6.73E+00                                |
| Final Form Volumes  |           |            |            | Rubber                       | 0.00                          | Pu-241     | 4.12E+01                                |
| ContainerType   | Stored    | Proj.      | Total      | Plastics                     | 1.15                          | Pu-242     | 3.37E-04                                |
| 55 Gallon POCs  | 1.5       |            |            | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.63E-13                                |
| 00 04110111 000   | 1.0       | 0.0        | 1.0        |                              |                               |            |   |

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

525.22

23.87

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

There is conflicting information as to the actual contents of this fluoride material. One source indicates it is impure fluoride (IDC 091) while another source indicates it is impure fluoride heel (IDC 092). This IDC may include a mixture of several fluoride IDCs.

1.5

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX, or RF-MTXXXX), but has been recharacterized as non-mixed waste.

1.5

# Waste Stream ID: RF-MT0099 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-MT0099 Stream Name N/A Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3229 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 8802 Can             |                    | 0.0    | 0.0   | 0.0   |
|                      | As-Generated Total | 0.0    | 0.0   | 0.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 701.69                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 17.18                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 7.02E-03                            |  |  |  |
| Np-237                   | 1.50E-08                            |  |  |  |
| Pu-238                   | 3.53E-03                            |  |  |  |
| Pu-239                   | 8.27E-02                            |  |  |  |
| Pu-240                   | 1.89E-02                            |  |  |  |
| Pu-241                   | 2.72E-01                            |  |  |  |
| Pu-242                   | 2.39E-06                            |  |  |  |
| Th-229                   | 7.90E-17                            |  |  |  |
| Th-230                   | 6.92E-12                            |  |  |  |
| Th-232                   | 2.00E-18                            |  |  |  |
| U-233                    | 2.73E-13                            |  |  |  |
| U-234                    | 1.26E-07                            |  |  |  |
| U-235                    | 9.79E-10                            |  |  |  |
| U-236                    | 6.74E-09                            |  |  |  |
| U-238                    | 4.34E-15                            |  |  |  |

#### **Waste Stream Description**

N/A

#### **Management Comments**

0.00

Packaging Material, Steel Plug

# Waste Stream ID: RF-MT0290 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-MT0290 Stream Name N/A                                  |        |              |           |                              |                               | Invent          | ory Date 9/30/200                   |
|--|--------|--------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste                             | Form S | Solidified I | norganics | Waste Matrix Code S3129      | Activity Co                   | ncentrations De | ecayed to CY 200                    |
| Final Waste Form Descriptors                                     |        |              |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |              |           | Iron-Base Metal/Alloys       | 7.16                          | Am-241          | 5.73E-01                            |
|  | Stored | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 1.23E-06                            |
| POC / 55 gallon  | 18.9   | 0.0          |           | Other Metal/Alloys           | 0.00                          | Pu-238          | 2.88E-01                            |
|  | I      |              |           | Other Inorganic Materials    | 0.00                          | Pu-239          | 6.75E+00                            |
| As-Generated Total   | 18.9   | 0.0          | 18.9      | Cellulosics                  | 0.00                          | Pu-240          | 1.54E+00                            |
| Final Form Volumes   |        |              |           | Rubber                       | 0.00                          | Pu-241          | 2.22E+01                            |
|  | Stored | Proj.        | Total     | Plastics                     | 8.59                          | Pu-242          | 1.96E-04                            |
| 55 Gallon POCs   | 19.0   | 0.0          | 19.0      | Solidified, Inorganic Matrix | 10.50                         | Th-229          | 6.45E-15                            |
|  |        |              |           | Cement (Solidified)          | 0.00                          | Th-230          | 5.64E-10                            |
| Final Form Total   | 19.0   | 0.0          | 19.0      | Vitrified                    | 0.00                          | Th-232          | 1.63E-16                            |
|  |        |              |           | Solidified, Organic Matrix   | 0.00                          | U-233           | 2.23E-11                            |
|  |        |              |           | Soils                        | 0.00                          | U-234           | 1.03E-05                            |
|  |        |              |           | Packaging Material, Steel    | 525.22                        | U-235           | 7.99E-08                            |
|  |        |              |           | Packaging Material, Plastic  | 23.87                         | U-236           | 5.50E-07                            |
|  |        |              |           | Packaging Material Lead      | 0.00                          | 11-238          | 3 5/E-13                            |

#### **Waste Stream Description**

N/A

#### **Management Comments**

### Waste Stream ID: RF-MT-0292

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID RF-W068 Stream Name Particulate Sludge/TRM                                   |          |              |           |                               |                               | Invent          | ory Date 9/30/2002                  |
|--|----------|--------------|-----------|-------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID None Handling CH Final Waste  | e Form S | olidified Ir | norganics | Waste Matrix Code S3129       | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |          |              |           | Waste Material Parameters     |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source Waste Volume Detail (m3) | ces      |              |           | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |              |           | Iron-Base Metal/Alloys        | 0.00                          | Am-241          | 5.73E-01                            |
|  | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys    | 0.00                          | Np-237          | 1.23E-06                            |
| 8804 Can   | 0.0      | 0.0          | 0.0       | Other Metal/Alloys            | 0.00                          | Pu-238          | 2.88E-01                            |
| Drum / 55 gallon   | 21.8     | 0.0          | 21.8      | Other Inorganic Materials     | 11.89                         | Pu-239          | 6.75E+00                            |
| Drum / 85 gallon   | 0.6      | 0.0          | 0.6       | Cellulosics                   | 0.00                          | Pu-240          | 1.54E+00                            |
| Drum / 85 gallon   | 0.6      | 0.0          | 0.6       | Rubber                        | 0.00                          | Pu-241          | 2.22E+01                            |
| POC / 55 gallon  | 1.0      | 0.0          | 1.0       | Plastics                      | 15.85                         | Pu-242          | 1.96E-04                            |
| Slip Lid Can   | 0.0      | 0.0          | 0.0       | Solidified, Inorganic Matrix  | 0.00                          | Th-229          | 6.45E-15                            |
|  |          |              |           | Cement (Solidified)           | 0.00                          | Th-230          | 5.64E-10                            |
| As-Generated Total   | 24.2     | 0.0          | 24.2      | Vitrified                     | 0.00                          | Th-232          | 1.63E-16                            |
| Final Form Volumes   |          |              |           | Solidified, Organic Matrix    | 368.46                        | U-233           | 2.23E-11                            |
| ContainerType  | Stored   | Proj.        | Total     | Soils                         | 0.00                          | U-234           | 1.03E-05                            |
| 55 Gallon Drum   | 22.9     | 0.0          | 22.9      | Packaging Material, Steel     | 155.38                        | U-235           | 7.99E-08                            |
| 55 Gallon POCs   | 1.0      | 0.0          | 1.0       | Packaging Material, Plastic   | 32.09                         | U-236           | 5.50E-07                            |
|  |          |              |           | Packaging Material, Lead      | 0.00                          | U-238           | 3.54E-13                            |
| Final Form Total   | 24.0     | 0.0          | 24.0      | Packaging Material Steel Plug | 0.00                          | <u> </u>        |                                     |

#### **Waste Stream Description**

This waste consists of sludge type material. It is a semi-fluid material. Some of it has had cement added to it to try to solidify it.

### **Management Comments**

The waste is packaged in 55-gallon drums with multiple bag liners. These are typically smaller containers within the drums.

# Waste Stream ID: RF-MT-0299 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W068 Stream Name Particulate Sludge/TRM Inventory Date 9/30/2002
Local ID None Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3129 Activity Concentrations Decayed to CY 2002

30.8

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |             |                     |  |  |  |
|----------------------|-------------|---------------------|--|--|--|
| Stored               | Proj.       | Total               |  |  |  |
| 0.0                  | 0.0         | 0.0                 |  |  |  |
| 16.0                 | 0.0         | 16.0                |  |  |  |
| 14.8                 | 0.0         | 14.8                |  |  |  |
|                      | 0.0<br>16.0 | 0.0 0.0<br>16.0 0.0 |  |  |  |

| Final Form Volumes |        |       |       |  |  |
|--------------------|--------|-------|-------|--|--|
| ContainerType      | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     | 16.3   | 0.0   | 16.3  |  |  |
| 55 Gallon POCs     | 14.8   | 0.0   | 14.8  |  |  |

**As-Generated Total** 

**Final Form Total** 31.1 0.0 31.1

30.8

0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.16                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 8.59                          |
| Solidified, Inorganic Matrix   | 10.50                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.06E+02                            |
| Np-237  | 3.97E-04                            |
| Pu-238  | 5.71E+00                            |
| Pu-239  | 1.34E+02                            |
| Pu-240  | 3.06E+01                            |
| Pu-241  | 4.40E+02                            |
| Pu-242  | 3.87E-03                            |
| Th-229  | 3.77E-12                            |
| Th-230  | 1.12E-08                            |
| Th-232  | 3.23E-15                            |
| U-233   | 1.01E-08                            |
| U-234   | 2.04E-04                            |
| U-235   | 1.58E-06                            |
| U-236   | 1.09E-05                            |
| U-238   | 1.22E-04                            |

#### **Waste Stream Description**

This waste consists of sludge type material. It is a semi-fluid material. Some of it has had cement added to it to try to solidify it.

#### **Management Comments**

The waste is packaged in 55-gallon drums with multiple bag liners. These are typically smaller containers within the drums

# Waste Stream ID: RF-MT0302 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W012 Stream Name Combustibles/TRM Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5313 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: General Building Waste and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.28                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 193.70                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 25.78                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 9.46E-02                            |  |  |  |
| Np-237                   | 6.33E-07                            |  |  |  |
| Pu-238                   | 1.69E-02                            |  |  |  |
| Pu-239                   | 4.30E-01                            |  |  |  |
| Pu-240                   | 9.85E-02                            |  |  |  |
| Pu-241                   | 1.28E+00                            |  |  |  |
| Pu-242                   | 1.12E-05                            |  |  |  |
| Th-229                   | 1.21E-14                            |  |  |  |
| Th-230                   | 4.38E-09                            |  |  |  |
| Th-232                   | 1.04E-17                            |  |  |  |
| U-233                    | 2.42E-11                            |  |  |  |
| U-234                    | 4.09E-05                            |  |  |  |
| U-235                    | 1.30E-06                            |  |  |  |
| U-236                    | 3.51E-08                            |  |  |  |
| U-238                    | 1.15E-08                            |  |  |  |
|                          |                                     |  |  |  |

#### **Waste Stream Description**

"This waste stream consists of Benelex and Plexiglas used for radiation shielding around gloveboxes, tanks, glovebox windows, and equipment enclosures."

#### **Management Comments**

New Waste Stream being added to TWBIR

# Waste Stream ID: RF-MT0320 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W037 Stream Name Heavy Metal (non-SS)/TRM Inventory Date 9/30/2002

Local ID IDC 320 Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5112 Activity Concentrations Decayed to CY 2002

5.2

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| 8802 Can             | 0.0    | 0.0   | 0.0   |  |  |
| Drum / 55 gallon     | 4.8    | 0.0   | 4.8   |  |  |
| POC / 55 gallon      | 0.4    | 0.0   | 0.4   |  |  |

| Final Form Volumes |        |       |       |  |  |
|--------------------|--------|-------|-------|--|--|
| ContainerType      | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     | 6.7    | 0.0   | 6.7   |  |  |
| 55 Gallon POCs     | 0.4    | 0.0   | 0.4   |  |  |

**As-Generated Total** 

**Final Form Total** 7.1 0.0 7.1

5.2

0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 41.91                         |
| Aluminum-Base Metal/Alloys     | 4.77                          |
| Other Metal/Alloys             | 126.66                        |
| Other Inorganic Materials      | 38.31                         |
| Cellulosics                    | 29.91                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.94                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 161.22                        |
| Packaging Material, Plastic    | 27.70                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.14E+00                            |
| Np-237  | 3.61E-05                            |
| Pu-238  | 1.03E+00                            |
| Pu-239  | 2.45E+01                            |
| Pu-240  | 5.63E+00                            |
| Pu-241  | 7.55E+01                            |
| Pu-242  | 6.90E-04                            |
| Th-229  | 5.57E-13                            |
| Th-230  | 2.20E-09                            |
| Th-232  | 5.94E-16                            |
| U-233   | 1.20E-09                            |
| U-234   | 3.84E-05                            |
| U-235   | 3.47E-07                            |
| U-236   | 2.00E-06                            |
| U-238   | 5.02E-10                            |

#### **Waste Stream Description**

IDC 320 - Scrap metals which are heavier than iron and steel. Metal above Cu on the periodic table. Mainly used tantalum crucibles.

#### **Management Comments**

N/A

# Waste Stream ID: RF-MT0321 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W028 Stream Name Lead/TRM Inventory Date 9/30/2002
Local ID IDC 321 Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code S5112 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| ContainerType      | Stored | Proj. | Total |
|--------------------|--------|-------|-------|
| Drum / 55 gallon   | 19.1   | 2.1   | 21.2  |
| Drum / 85 gallon   | 4.2    | 0.0   | 4.2   |
| Standard Waste Box | 1.9    | 5.7   | 7.6   |

25.3

7.8

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 19.2   | 2.1   | 21.3  |
| 85 Gallon Drum     | 4.2    | 0.0   | 4.2   |
| Standard Waste Box | 1.9    | 5.7   | 7.6   |
|                    |        |       |       |

Final Form Total

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 47.53                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 400.76                        |
| Other Inorganic Materials      | 73.60                         |
| Cellulosics                    | 10.92                         |
| Rubber                         | 5.72                          |
| Plastics                       | 16.62                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 135.78                        |
| Packaging Material, Plastic    | 20.85                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.03E-01                            |
| Np-237  | 1.29E-05                            |
| Pu-238  | 5.21E-02                            |
| Pu-239  | 1.35E+00                            |
| Pu-240  | 3.05E-01                            |
| Pu-241  | 3.61E+00                            |
| Pu-242  | 4.13E-05                            |
| Th-229  | 3.17E-13                            |
| Th-230  | 6.37E-09                            |
| Th-232  | 3.22E-17                            |
| U-233   | 5.89E-10                            |
| U-234   | 5.99E-05                            |
| U-235   | 1.89E-06                            |
| U-236   | 1.09E-07                            |
| U-238   | 1.65E-08                            |

#### **Waste Stream Description**

This waste form consists of metallic lead in the form of sheets, bricks, or tape.

Physical form: solid

Currently, no analytical data for lead waste is available. Process knowledge is the basis for characterization of this waste form. Lead waste (IDC 321) from non-specific sources is believed to have only lead (D008) as a hazardous constituent. In numerous tests of elemental lead, EP toxicity values exceed those listed in Table 1, 40 CFR 261.24. It is assumed that IDC 321 would also exceed EP toxicity limits for lead.

33.0

#### **Management Comments**

This waste is packaged in 55-gallon drums lined with a fiberboard liner and two polyethylene bag liners.

### Waste Stream ID: RF-MT-0328

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W066 Stream Name Filters & media/TRM                                       |          |        |       |                                |                               | Invent           | ory Date 9/30/2002                  |
|---|----------|--------|-------|--------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID None Handling CH Final Wa  | ste Form | Filter |       | Waste Matrix Code S5410        | Activity Co                   | oncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |        |       | Waste Material Parameters      |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |        |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |        |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241           | 6.10E-01                            |
| ContainerType   | Stored   | Proj.  | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237           | 6.09E-06                            |
| Drum / 55 gallon  | 1.0      | 1.0    |       | Other Metal/Alloys             | 0.00                          | Pu-238           | 8.03E-02                            |
|   |          |        |       | Other Inorganic Materials      | 0.00                          | Pu-239           | 1.88E+00                            |
| As-Generated Total  | 1.0      | 1.0    | 2.1   | Cellulosics                    | 0.00                          | Pu-240           | 4.30E-01                            |
| Final Form Volumes  |          |        |       | Rubber                         | 0.00                          | Pu-241           | 6.18E+00                            |
| ContainerType   | Stored   | Proj.  | Total | Plastics                       | 4.77                          | Pu-242           | 5.44E-05                            |
| 55 Gallon Drum  | 1.0      | 1.0    | 2.1   | Solidified, Inorganic Matrix   | 0.00                          | Th-229           | 1.35E-13                            |
|   | <u> </u> |        |       | Cement (Solidified)            | 0.00                          | Th-230           | 1.14E-08                            |
| Final Form Total  | 1.0      | 1.0    | 2.1   | Vitrified                      | 0.00                          | Th-232           | 4.54E-17                            |
|   |          |        |       | Solidified, Organic Matrix     | 0.00                          | U-233            | 2.59E-10                            |
|   |          |        |       | Soils                          | 0.00                          | U-234            | 1.07E-04                            |
|   |          |        |       | Packaging Material, Steel      | 138.57                        | U-235            | 3.38E-06                            |
|   |          |        |       | Packaging Material, Plastic    | 32.46                         | U-236            | 1.53E-07                            |
|   |          |        |       | Packaging Material, Lead       | 0.00                          | U-238            | 2.98E-08                            |
|   |          |        |       | Packaging Material, Steel Plug | 0.00                          |                  | •                                   |

#### **Waste Stream Description**

328 - Flu-Flo filters from the recovery incineration, building 771. Mixed Waste.

#### **Management Comments**

Filter waste is packaged in 55-gallon drums and metal standard waste boxes.

8.22E-10

2.08E-05

2.99E-07

2.21E-06

7.74E-13

Waste Stream ID: RF-MT0330

### Appendix J TRII WASTE BASELINE INVENTORY WASTE PROFILE

|   | TAOIL I  | JAOLLII   |       | OKT WASTET KOTTEE            |                               |                 |                                     |
|---|----------|-----------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID RF-W012 Stream Name Combustibles, dry/TRM                                     |          |           |       |                              |                               | Invent          | ory Date 9/30/2002                  |
| Local ID None Handling CH Final Wa  | ste Form | Combustib | ole   | Waste Matrix Code S5390      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |           |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |       | Iron-Base Metal/Alloys       | 8.97                          | Am-241          | 4.36E+00                            |
| ContainerType   | Stored   | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 2.38E-05                            |
| Drum / 55 gallon  | 2.9      | •         | 3.7   | Other Metal/Alloys           | 0.00                          | Pu-238          | 5.83E-01                            |
| Slip Lid Can  | 0.0      |           |       | Other Inorganic Materials    | 0.00                          | Pu-239          | 2.53E+01                            |
|   |          |           |       | Cellulosics                  | 0.00                          | Pu-240          | 6.22E+00                            |
| As-Generated Total  | 2.9      | 0.8       | 3.7   | Rubber                       | 0.00                          | Pu-241          | 3.85E+01                            |
| Final Form Volumes  |          |           |       | Plastics                     | 37.23                         | Pu-242          | 4.28E-04                            |
| ContainerType   | Stored   | Proj.     | Total | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 3.87E-13                            |
| 55 Gallon Drum  | 3.1      |           |       | Cement (Solidified)          | 0.00                          | Th-230          | 1.14E-09                            |
| oo Gallon Brain   | 0.1      | 0.0       | 4.0   | Vitrified                    | 0.00                          | Th-232          | 6.56E-16                            |

#### **Waste Stream Description**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

4.0

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Soils

0.00

0.00

138.52

22.72

0.00

0.00

U-233

U-234

U-235

U-236

U-238

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

**Final Form Total** 

3.1

8.0

0.00

Packaging Material, Steel Plug

#### RF-MT-0331 Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W066 Stream Name Filters & media/TRM                                 |            |       |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| <u> </u>  | Vaste Form | ilter |       | Waste Matrix Code S5410      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple S Waste Volume Detail (m3) | Sources    |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys       | 115.41                        | Am-241     | 5.23E+00                            |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys   | 119.34                        | Np-237     | 2.87E-05                            |
| Drum / 10 gallon  | 0.0        | 0.0   |       | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.21E-01                            |
| Drum / 55 gallon  | 24.3       | 0.0   | 24.3  | Other Inorganic Materials    | 36.78                         | Pu-239     | 2.20E+01                            |
|   |            |       |       | Cellulosics                  | 12.89                         | Pu-240     | 4.93E+00                            |
| As-Generated Total  | al 24.4    | 0.0   | 24.4  | Rubber                       | 0.00                          | Pu-241     | 4.44E+01                            |
| Final Form Volumes  |            |       |       | Plastics                     | 91.22                         | Pu-242     | 5.17E-04                            |
| ContainerType   | Stored     | Proj. | Total | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 4.68E-13                            |
| 55 Gallon Drum  | 24.6       |       | 24.6  | Cement (Solidified)          | 0.00                          | Th-230     | 9.24E-08                            |
|   |            |       |       | Vitrified                    | 0.00                          | Th-232     | 5.20E-16                            |
| Final Form Total  | al 24.6    | 0.0   | 24.6  | Solidified, Organic Matrix   | 3.66                          | U-233      | 9.92E-10                            |
|   |            |       |       | Soils                        | 0.00                          | U-234      | 8.68E-04                            |
|   |            |       |       | Packaging Material, Steel    | 138.54                        | U-235      | 2.74E-05                            |
|   |            |       |       | Packaging Material, Plastic  | 31.45                         | U-236      | 1.75E-06                            |
|   |            |       |       | Packaging Material, Lead     | 0.00                          | U-238      | 5.59E-07                            |

#### **Waste Stream Description**

331 - Ful-Flo filters used to filter solids from aqueous solutions. Additional required processing undetermined. Because of the potential of liquids in this IDC, it requires a compatibility code when packaging.

#### **Management Comments**

Filter waste is packaged in 55-gallon drums and metal standard waste boxes.

# Waste Stream ID: RF-MT0332 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name N/A **HQ ID** RF-MT0332 Inventory Date 9/30/2002 CH Final Waste Form Solidified Organics Local ID N/A Handling Waste Matrix Code S3229 **Activity Concentrations Decayed to CY** 2002 **Final Waste Form Descriptors Waste Material Parameters** Final Form Radionuclides Defense TRU Waste Source: N/A Average Category: Density Material Parameter (kg/m3) Waste Volume Detail (m3) Iron-Base Metal/Alloys 0.00 As-Generated Volumes Aluminum-Base Metal/Alloys 0.00 ContainerType Stored Proj. Total Other Metal/Alloys 0.00 8804 Can 0.1 0.0 0.1 Other Inorganic Materials 0.00 0.1 0.0 0.1 **As-Generated Total** Cellulosics 12.89

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 1.5    | 0.0   | 1.5   |
|                    |        |       |       |

**Final Form Total** 1.5 0.0 1.5

#### Rubber 0.00 Plastics 0.00 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 701.69 Soils 0.00 Packaging Material, Steel 138.43 Packaging Material, Plastic 17.18 Packaging Material, Lead 0.00 Packaging Material, Steel Plug 0.00

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 7.02E-03                            |  |  |
| Np-237                   | 1.50E-08                            |  |  |
| Pu-238                   | 3.53E-03                            |  |  |
| Pu-239                   | 8.27E-02                            |  |  |
| Pu-240                   | 1.89E-02                            |  |  |
| Pu-241                   | 2.72E-01                            |  |  |
| Pu-242                   | 2.39E-06                            |  |  |
| Th-229                   | 7.90E-17                            |  |  |
| Th-230                   | 6.92E-12                            |  |  |
| Th-232                   | 2.00E-18                            |  |  |
| U-233                    | 2.73E-13                            |  |  |
| U-234                    | 1.26E-07                            |  |  |
| U-235                    | 9.79E-10                            |  |  |
| U-236                    | 6.74E-09                            |  |  |
| U-238                    | 4.34E-15                            |  |  |
| l-                       |                                     |  |  |

#### **Waste Stream Description**

N/A

#### **Management Comments**

### Waste Stream ID: RF-MT-0335

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W066 Stream Name Filters & media/TRM                                       |            |       |       |                                |                               | Invento         | ory Date 9/30/2002                  |
|---|------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID None Handling CH Final Was   | ste Form F | ilter |       | Waste Matrix Code S5410        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ırces      |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys         | 11.29                         | Am-241          | 1.63E+00                            |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys     | 7.90                          | Np-237          | 1.87E-05                            |
| Drum / 55 gallon  | 0.8        | 0.0   | 0.8   | Other Metal/Alloys             | 0.00                          | Pu-238          | 2.84E-01                            |
|   |            |       |       | Other Inorganic Materials      | 5.09                          | Pu-239          | 7.47E+00                            |
| As-Generated Total  | 8.0        | 0.0   | 8.0   | Cellulosics                    | 12.83                         | Pu-240          | 1.72E+00                            |
| Final Form Volumes  |            |       |       | Rubber                         | 7.03                          | Pu-241          | 1.94E+01                            |
| ContainerType   | Stored     | Proj. | Total | Plastics                       | 17.72                         | Pu-242          | 1.82E-04                            |
| 55 Gallon Drum  | 0.8        | 0.0   | 0.8   | Solidified, Inorganic Matrix   | 2.33                          | Th-229          | 4.33E-13                            |
|   | I          |       |       | Cement (Solidified)            | 0.00                          | Th-230          | 7.07E-08                            |
| Final Form Total  | 8.0        | 0.0   | 0.8   | Vitrified                      | 0.00                          | Th-232          | 1.81E-16                            |
|   |            |       |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 8.18E-10                            |
|   |            |       |       | Soils                          | 0.48                          | U-234           | 6.60E-04                            |
|   |            |       |       | Packaging Material, Steel      | 138.48                        | U-235           | 2.03E-05                            |
|   |            |       |       | Packaging Material, Plastic    | 28.31                         | U-236           | 6.10E-07                            |
|   |            |       |       | Packaging Material, Lead       | 0.00                          | U-238           | 1.86E-06                            |
|   |            |       |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

335 - High efficiency particulate air filters used on glovebox air intakes and exhausts.

#### **Management Comments**

Filter waste is packaged in 55-gallon drums and metal standard waste boxes.

### Waste Stream ID: RF-MT0336

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | IAOIL L  | AULLII    | 4E 1147 E141 | OKT WASTET KOTTEE            |                               |            |                                     |
|---|----------|-----------|--------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W012 Stream Name Combustibles/TRM  |          |           |              |                              |                               | Invent     | ory Date 9/30/2002                  |
|   | ste Form | Combustib | le           | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |           |              | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |           |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |              | Iron-Base Metal/Alloys       | 1.59                          | Am-241     | 7.22E+00                            |
| ContainerType   | Stored   | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 2.62E-05                            |
| Drum / 55 gallon  | 13.7     | 0.0       | 13.7         | Other Metal/Alloys           | 0.00                          | Pu-238     | 1.10E+00                            |
| Drum / 85 gallon  | 0.3      |           | 0.3          | Other Inorganic Materials    | 0.00                          | Pu-239     | 3.09E+01                            |
| Slip Lid Can  | 0.0      |           | 0.0          | Cellulosics                  | 0.00                          | Pu-240     | 7.04E+00                            |
|   |          |           |              | Rubber                       | 0.00                          | Pu-241     | 6.65E+01                            |
| As-Generated Total  | 14.1     | 0.0       | 14.1         | Plastics                     | 17.72                         | Pu-242     | 8.20E-04                            |
| Final Form Volumes  |          |           |              | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 2.58E-13                            |
| ContainerType   | Stored   | Proj.     | Total        | Cement (Solidified)          | 0.00                          | Th-230     | 1.59E-08                            |
| 55 Gallon Drum  | 14.0     | 0.0       | 14.0         | Vitrified                    | 0.00                          | Th-232     | 7.43E-16                            |
| 85 Gallon Drum  | 0.3      | 0.0       | 0.3          | Solidified, Organic Matrix   | 0.00                          | U-233      | 6.77E-10                            |
| oo Gallon Brain   | 0.0      | 0.0       |              | Soils                        | 0.00                          | U-234      | 1.67E-04                            |
| Final Form Total  | 14.3     | 0.0       | 14.3         | Packaging Material, Steel    | 137.50                        | U-235      | 4.47E-06                            |
|   |          |           |              | Packaging Material, Plastic  | 29.61                         | U-236      | 2.51E-06                            |
|   |          |           |              | Packaging Material, Lead     | 0.00                          | U-238      | 3.63E-08                            |

#### **Waste Stream Description**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

### Waste Stream ID: RF-MT0337

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W012 Stream Name Combustibles/TRM   |          |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID None Handling CH Final Waste Form Combu                                     | stible   | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sources  Waste Volume Detail (m3) |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   | 1        | Iron-Base Metal/Alloys       | 1.85                          | Am-241     | 4.34E+00                            |
| ContainerType Stored Proj  | i. Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.61E-05                            |
|  | 0.0 13.9 | Other Metal/Alloys           | 0.00                          | Pu-238     | 6.18E-01                            |
|  |          | Other Inorganic Materials    | 10.50                         | Pu-239     | 1.93E+01                            |
| As-Generated Total 13.9  | 0.0 13.9 | Cellulosics                  | 0.00                          | Pu-240     | 4.34E+00                            |
| Final Form Volumes   |          | Rubber                       | 0.00                          | Pu-241     | 3.32E+01                            |
| ContainerType Stored Proj  | i. Total | Plastics                     | 120.69                        | Pu-242     | 4.13E-04                            |
|  | 0.0 14.0 | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.61E-13                            |
|  |          | Cement (Solidified)          | 0.00                          | Th-230     | 3.10E-08                            |
| Final Form Total 14.0  | 0.0 14.0 | Vitrified                    | 0.00                          | Th-232     | 4.58E-16                            |
|  |          | Solidified, Organic Matrix   | 0.00                          | U-233      | 4.20E-10                            |
|  |          | Soils                        | 0.00                          | U-234      | 2.98E-04                            |
|  |          | Packaging Material, Steel    | 138.56                        | U-235      | 9.11E-06                            |
|  |          | Packaging Material, Plastic  | 32.30                         | U-236      | 1.55E-06                            |
|  |          | Packaging Material, Lead     | 0.00                          | U-238      | 7.86E-08                            |

#### **Waste Stream Description**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

# Waste Stream ID: RF-MT0339 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W029 Stream Name Leaded Dry Box Gloves/TRM Inventory Date 9/30/2002
Local ID IDC 339 Handling CH Final Waste Form Combustible Waste Matrix Code S5311 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |       |         |       |
|----------------------|-------|---------|-------|
| ContainerType        | Store | l Proj. | Total |
| Drum / 55 gallon     | 101   | .9 64.5 | 166.4 |
| Standard Waste Box   | 1     | .9 9.5  | 11.4  |
|                      |       | -       | -     |

| As-Generated Total | 103.8 | 74.0 | 177.8 |
|--------------------|-------|------|-------|
|                    |       |      |       |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 102.1  | 64.6  | 166.8 |
| Standard Waste Box | 1.9    | 9.4   | 11.3  |

Final Form Total 104.0 74.1 178.1

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.36                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 229.49                        |
| Other Inorganic Materials      | 103.54                        |
| Cellulosics                    | 12.09                         |
| Rubber                         | 133.48                        |
| Plastics                       | 20.85                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 139.38                        |
| Packaging Material, Plastic    | 28.73                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.83E-01                            |
| Np-237  | 1.54E-05                            |
| Pu-238  | 9.05E-02                            |
| Pu-239  | 2.28E+00                            |
| Pu-240  | 5.14E-01                            |
| Pu-241  | 6.47E+00                            |
| Pu-242  | 5.53E-05                            |
| Th-229  | 4.10E-13                            |
| Th-230  | 7.23E-09                            |
| Th-232  | 5.42E-17                            |
| U-233   | 7.45E-10                            |
| U-234   | 6.86E-05                            |
| U-235   | 1.02E-06                            |
| U-236   | 1.83E-07                            |
| U-238   | 2.50E-07                            |

#### **Waste Stream Description**

This waste stream is a solid matrix consisting of gloves with lead lining. There could be some free liquids in waste containers.

#### **Management Comments**

The gloves are packaged in 55-gallon drums lined with a rigid polyethylene liner and one bag liner.

# RF-MT-0342 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Filters & media/TRM HQ ID RF-W066 Inventory Date 9/30/2002 СН Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: Other/Multiple Sources Category: Defense TRU Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.4    | 0.0   | 0.4   |
| As-Generated Total   | 0.4    | 0.0   | 0.4   |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.4    | 0.0   | 0.4   |
| Final Form Total     | 0.4    | 0.0   | 0.4   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.47                          |
| Aluminum-Base Metal/Alloys     | 12.86                         |
| Other Metal/Alloys             | 4.30                          |
| Other Inorganic Materials      | 7.58                          |
| Cellulosics                    | 12.62                         |
| Rubber                         | 9.61                          |
| Plastics                       | 24.64                         |
| Solidified, Inorganic Matrix   | 1.67                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 8.59                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.46                        |
| Packaging Material, Plastic    | 26.15                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.94E+00                            |
| Np-237  | 2.68E-05                            |
| Pu-238  | 4.73E-01                            |
| Pu-239  | 1.31E+01                            |
| Pu-240  | 2.94E+00                            |
| Pu-241  | 2.94E+01                            |
| Pu-242  | 2.75E-04                            |
| Th-229  | 6.52E-13                            |
| Th-230  | 1.61E-08                            |
| Th-232  | 3.11E-16                            |
| U-233   | 1.21E-09                            |
| U-234   | 1.57E-04                            |
| U-235   | 4.68E-06                            |
| U-236   | 1.05E-06                            |
| U-238   | 2.77E-06                            |

#### **Waste Stream Description**

342 - Drybox filters from all acid lines.

#### **Management Comments**

Filter waste is packaged in 55-gallon drums and metal standard waste boxes.

### Waste Stream ID: RF-MT0371

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-MT0371 Stream Name N/A  Local ID N/A Handling CH Final Wa | aste Form | norganic N | Ion-Metal | Waste Matrix Code S5123        | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-----------|------------|-----------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors                                       |           |            |           | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |           |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |            |           | Iron-Base Metal/Alloys         | 0.96                          | Am-241     | 1.45E+01                                |
| ContainerType  | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 1.91                          | Np-237     | 1.56E-04                                |
| 8802 Can   | 0.0       | 0.0        | 0.0       | Other Metal/Alloys             | 0.00                          | Pu-238     | 2.23E+00                                |
| 8804 Can   | 0.0       | 0.0        | 0.0       | Other Inorganic Materials      | 236.28                        | Pu-239     | 5.22E+01                                |
| Drum / 55 gallon   | 1.2       | 0.0        | 1.2       | Cellulosics                    | 0.00                          | Pu-240     | 1.19E+01                                |
| POC / 55 gallon  | 18.5      | 0.0        | 18.5      | Rubber                         | 0.00                          | Pu-241     | 1.72E+02                                |
|  | <u> </u>  |            |           | Plastics                       | 50.76                         | Pu-242     | 1.51E-03                                |
| As-Generated Total   | 19.8      | 0.0        | 19.8      | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 3.55E-12                                |
| Final Form Volumes   |           |            |           | Cement (Solidified)            | 0.00                          | Th-230     | 1.12E-08                                |
| ContainerType  | Stored    | Proj.      | Total     | Vitrified                      | 0.00                          | Th-232     | 1.26E-15                                |
| 55 Gallon Drum   | 1.9       | 0.0        | 1.9       | Solidified, Organic Matrix     | 0.00                          | U-233      | 6.73E-09                                |
| 55 Gallon POCs   | 18.6      | 0.0        | 18.6      | Soils                          | 0.00                          | U-234      | 1.43E-04                                |
|  |           |            |           | Packaging Material, Steel      | 489.70                        | U-235      | 2.66E-06                                |
| Final Form Total   | 20.4      | 0.0        | 20.4      | Packaging Material, Plastic    | 23.56                         | U-236      | 4.25E-06                                |
|  |           |            |           | Packaging Material, Lead       | 0.00                          | U-238      | 1.81E-08                                |
|  |           |            |           | Packaging Material, Steel Plug | 0.00                          |            |   |

### Management Comments

N/A

# Waste Stream ID: RF-MT-0372 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W068 Stream Name Particulate Sludge/TRM Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5123 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| Drum / 55 gallon     |                    | 1.5    | 0.0   | 1.5   |  |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |  |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |  |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 4.77                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 115.80                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 17.50                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.48                        |
| Packaging Material, Plastic    | 29.60                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |
|-------------------------------------|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| 7.35E-01                            |  |  |  |
| 3.65E-06                            |  |  |  |
| 2.20E-01                            |  |  |  |
| 5.11E+00                            |  |  |  |
| 1.17E+00                            |  |  |  |
| 1.49E+01                            |  |  |  |
| 1.33E-04                            |  |  |  |
| 6.02E-14                            |  |  |  |
| 1.82E-08                            |  |  |  |
| 1.23E-16                            |  |  |  |
| 1.26E-10                            |  |  |  |
| 1.72E-04                            |  |  |  |
| 5.35E-06                            |  |  |  |
| 4.16E-07                            |  |  |  |
| 4.68E-08                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

This waste consists of iron shot, walnut shells, glass beads, and ceramic beads generated by grit blasting operations.

#### **Management Comments**

The waste is packaged in 55-gallon drums with multiple bag liners. These are typically smaller containers within the drum

### Waste Stream ID: RF-MT0373

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

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|--|---------|--------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-MT0373 Stream Name N/A                                  |         |              |           |                                |                               | Invent     | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final Was                               | te Form | Solidified I | norganics | Waste Matrix Code S3119        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |         |              |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |         |              |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |              |           | Iron-Base Metal/Alloys         | 19.44                         | Am-241     | 5.34E+00                            |
|  | Stored  | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 1.89E-05                            |
| 8802 Can   | 0.0     | 0.0          | 0.0       | Other Metal/Alloys             | 23.87                         | Pu-238     | 8.34E-01                            |
| POC / 55 gallon  | 3.7     | 0.0          | 3.7       | Other Inorganic Materials      | 92.37                         | Pu-239     | 3.54E+01                            |
|  | I       |              |           | Cellulosics                    | 12.89                         | Pu-240     | 8.03E+00                            |
| As-Generated Total   | 3.7     | 0.0          | 3.7       | Rubber                         | 0.00                          | Pu-241     | 4.53E+01                            |
| Final Form Volumes   |         |              |           | Plastics                       | 15.87                         | Pu-242     | 4.91E-04                            |
| ContainerType  | Stored  | Proj.        | Total     | Solidified, Inorganic Matrix   | 80.40                         | Th-229     | 1.73E-13                            |
| 55 Gallon POCs   | 4.0     | 0.0          |           | Cement (Solidified)            | 0.00                          | Th-230     | 1.63E-09                            |
|  |         |              |           | Vitrified                      | 0.00                          | Th-232     | 8.48E-16                            |
| Final Form Total   | 4.0     | 0.0          | 4.0       | Solidified, Organic Matrix     | 0.00                          | U-233      | 4.72E-10                            |
|  |         |              |           | Soils                          | 0.00                          | U-234      | 2.98E-05                            |
|  |         |              |           | Packaging Material, Steel      | 525.22                        | U-235      | 4.19E-07                            |
|  |         |              |           | Packaging Material, Plastic    | 23.87                         | U-236      | 2.86E-06                            |
|  |         |              |           | Packaging Material, Lead       | 0.00                          | U-238      | 8.88E-13                            |
|  |         |              |           | Packaging Material, Steel Plug | 0.00                          | 1          |                                     |

#### **Waste Stream Description**

Scarfed firebrick (IDC 377 and 378) was subjected to a nitric acid dissolution process. Firebrick heel (IDC 373) is the material that did not dissolve and was filtered and dried.

#### **Management Comments**

# Waste Stream ID: RF-MT0374 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Soil & Cleanup Debris/TRM Inventory Date 9/30/2002 HQ ID RF-W008 IDC 374 СН Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors** Waste Material Parameters **Final Form Radionuclides** Category: Defense TRU Waste Source: Remediation/D&D Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| Drum / 55 gallon     |                    | 0.6    | 0.0   | 0.6   |  |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |  |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |  |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 18.66                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 447.28                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 5.44                          |
| Plastics                       | 18.14                         |
| Solidified, Inorganic Matrix   | 840.22                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 608.13                        |
| Soils                          | 239.96                        |
| Packaging Material, Steel      | 138.52                        |
| Packaging Material, Plastic    | 31.17                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.21E-01                            |
| Np-237  | 1.08E-05                            |
| Pu-238  | 1.89E-01                            |
| Pu-239  | 4.42E+00                            |
| Pu-240  | 1.01E+00                            |
| Pu-241  | 1.45E+01                            |
| Pu-242  | 1.28E-04                            |
| Th-229  | 2.56E-13                            |
| Th-230  | 9.42E-10                            |
| Th-232  | 1.07E-16                            |
| U-233   | 4.80E-10                            |
| U-234   | 1.21E-05                            |
| U-235   | 9.98E-07                            |
| U-236   | 3.60E-07                            |
| U-238   | 5.64E-06                            |

#### **Waste Stream Description**

This waste consists of blacktop/concrete/dirt/sand.

#### **Management Comments**

55 gallon carbon steel DOT 7A Type A Drum.

### Waste Stream ID: RF-MT0376

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Local ID N/A Handling CH Final Was                               | ste Form | Filter |       | Waste Matrix Code S5410        | Activity Co                   | ncentrations D | ecayed to CY 2002                   |
|--|----------|--------|-------|--------------------------------|-------------------------------|----------------|-------------------------------------|
| Final Waste Form Descriptors                                     |          |        |       | Waste Material Parameters      |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |        |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |        |       | Iron-Base Metal/Alloys         | 2.52                          | Am-241         | 2.28E+00                            |
| ContainerType  | Stored   | Proj.  | Total | Aluminum-Base Metal/Alloys     | 16.25                         | Np-237         | 1.59E-05                            |
| Drum / 55 gallon   | 0.2      | 0.0    |       | Other Metal/Alloys             | 172.56                        | Pu-238         | 4.57E-01                            |
|  |          |        |       | Other Inorganic Materials      | 73.46                         | Pu-239         | 1.32E+01                            |
| As-Generated Total   | 0.2      | 0.0    | 0.2   | Cellulosics                    | 12.68                         | Pu-240         | 3.07E+00                            |
| Final Form Volumes   |          |        |       | Rubber                         | 8.99                          | Pu-241         | 3.21E+01                            |
| ContainerType  | Stored   | Proj.  | Total | Plastics                       | 13.79                         | Pu-242         | 2.98E-04                            |
| 55 Gallon Drum   | 0.2      | 0.0    |       | Solidified, Inorganic Matrix   | 0.00                          | Th-229         | 3.10E-13                            |
|  |          |        |       | Cement (Solidified)            | 0.00                          | Th-230         | 8.72E-09                            |
| Final Form Total   | 0.2      | 0.0    | 0.2   | Vitrified                      | 0.00                          | Th-232         | 3.24E-16                            |
|  |          |        |       | Solidified, Organic Matrix     | 10.26                         | U-233          | 6.16E-10                            |
|  |          |        |       | Soils                          | 0.00                          | U-234          | 8.89E-05                            |
|  |          |        |       | Packaging Material, Steel      | 138.44                        | U-235          | 2.49E-06                            |
|  |          |        |       | Packaging Material, Plastic    | 27.71                         | U-236          | 1.09E-06                            |
|  |          |        |       | Packaging Material, Lead       | 0.00                          | U-238          | 4.49E-06                            |
|  |          |        |       | Packaging Material, Steel Plug | 0.00                          |                |                                     |

**Management Comments** 

N/A

#### Appendix J Waste Stream ID: RF-MT0377 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Firebrick, coarse/TRM HQ ID RF-W036 Inventory Date 9/30/2002 C 377,378,373,37 CH Final Waste Form Solidified Inorganics Waste Matrix Code S5123 Local ID Handling Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste **Source:** Facility/Equipment Operation and Maintenance

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 6.0    | 0.0   | 6.0   |
| POC / 55 gallon      | 68.2   | 0.0   | 68.2  |
| As-Generated Total   | 74.3   | 0.0   | 74.3  |

| Final Form Volumes |                  |        |       |       |  |  |
|--------------------|------------------|--------|-------|-------|--|--|
| ContainerType      |                  | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     |                  | 6.0    | 0.0   | 6.0   |  |  |
| 55 Gallon POCs     |                  | 68.4   | 0.0   | 68.4  |  |  |
|                    | Final Form Total | 74.4   | 0.0   | 74.4  |  |  |

| 6.0  | 0.0 | 6.0 |  |
|------|-----|-----|--|
| 00.4 |     | •   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 25.22                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 110.43                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.64                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 493.81                        |
| Packaging Material, Plastic    | 24.36                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.67E+00                            |
| Np-237  | 5.38E-05                            |
| Pu-238  | 7.38E-01                            |
| Pu-239  | 1.73E+01                            |
| Pu-240  | 3.96E+00                            |
| Pu-241  | 5.67E+01                            |
| Pu-242  | 5.00E-04                            |
| Th-229  | 1.33E-12                            |
| Th-230  | 1.62E-08                            |
| Th-232  | 4.17E-16                            |
| U-233   | 2.46E-09                            |
| U-234   | 1.63E-04                            |
| U-235   | 4.56E-06                            |
| U-236   | 1.41E-06                            |
| U-238   | 3.83E-08                            |

#### **Waste Stream Description**

This waste form is firebrick that has been crushed and pulverized.

#### **Management Comments**

The waste is packaged in 55- gallon drums lined with a rigid polyethylene liner. Projected future generation begins in CY2005.

6.86E-16

1.64E-09

4.33E-05

3.36E-07

2.31E-06

1.49E-12

### Waste Stream ID: RF-MT0378

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU W   | IASIE     | DASELII    | AE IIAAEI | NIORT WASTE PROFILE          |                               |            |   |
|---|-----------|------------|-----------|------------------------------|-------------------------------|------------|---|
| HQ ID RF-W036 Stream Name Firebrick, pulverized or fine Local ID C 377,378,373,37 Handling CH Final Was |           | norganic i | Non-Metal | Waste Matrix Code S5123      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Facility/Equipment Waste  Waste Volume Detail (m3)                  | Operation | n and Mair | ntenance  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
|   |           |            |           | Iron-Base Metal/Alloys       | 1.43                          | Am-241     | 4.30E+00                                |
| As-Generated Volumes  |           |            |           | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.86E-05                                |
| ContainerType   | Stored    | Proj.      | Total     | Other Metal/Alloys           | 0.00                          | Pu-238     | 1.21E+00                                |
| Drum / 55 gallon  | 0.6       | 0.0        | 0.6       | Other Inorganic Materials    | 18.62                         | Pu-239     | 2.84E+01                                |
| As-Generated Total  | 0.6       | 0.0        | 0.6       | Cellulosics                  | 0.00                          | Pu-240     | 6.50E+00                                |
|   |           |            |           | Rubber                       | 0.00                          | Pu-241     | 9.34E+01                                |
| Final Form Volumes  |           |            |           | Plastics                     | 7.64                          | Pu-242     | 8.23E-04                                |
| ContainerType   | Stored    | Proj.      | Total     | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 8.59E-13                                |
| 55 Gallon Drum  | 0.6       | 0.0        | 0.6       | Cement (Solidified)          | 0.00                          | Th-230     | 2.38E-09                                |

0.6

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

8.59

0.00

0.00

138.57

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

This waste form is firebrick that has been crushed and pulverized.

#### **Management Comments**

The waste is packaged in 55- gallon drums lined with a rigid polyethylene liner.

Final Form Total

0.6

0.0

# Waste Stream ID: RF-MT0419 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name N/A HQ ID RF-MT0419 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Activity Concentrations Decayed to CY 2002 Local ID Handling Waste Matrix Code S3111 Final Form Radionuclides **Final Waste Form Descriptors Waste Material Parameters** Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 4.8    | 0.0   | 4.8   |
|                      | As-Generated Total | 4.8    | 0.0   | 4.8   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proi. | Total |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon POCs |                  | 4.8    | 0.0   | 4.8   |
|                | Final Form Total | 4.8    | 0.0   | 4.8   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.67                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 8.69                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 2.01                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.18E+00                            |  |  |  |
| Np-237                   | 1.24E-05                            |  |  |  |
| Pu-238                   | 1.48E-01                            |  |  |  |
| Pu-239                   | 3.46E+00                            |  |  |  |
| Pu-240                   | 7.92E-01                            |  |  |  |
| Pu-241                   | 1.14E+01                            |  |  |  |
| Pu-242                   | 1.00E-04                            |  |  |  |
| Th-229                   | 2.79E-13                            |  |  |  |
| Th-230                   | 2.89E-10                            |  |  |  |
| Th-232                   | 8.36E-17                            |  |  |  |
| U-233                    | 5.32E-10                            |  |  |  |
| U-234                    | 5.28E-06                            |  |  |  |
| U-235                    | 4.09E-08                            |  |  |  |
| U-236                    | 2.82E-07                            |  |  |  |
| U-238                    | 1.82E-13                            |  |  |  |

#### **Waste Stream Description**

N/A

#### **Management Comments**

# Waste Stream ID: RF-MT0420 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W040 Stream Name incinerator ash/TRM Inventory Date 9/30/2002
Local ID None Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3111 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Pollution Control or Waste Treatment Process

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 8.0    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.67                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 8.69                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 2.01                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides            |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| 1.18E+00                            |  |  |  |  |  |
| 1.24E-05                            |  |  |  |  |  |
| 1.48E-01                            |  |  |  |  |  |
| 3.46E+00                            |  |  |  |  |  |
| 7.92E-01                            |  |  |  |  |  |
| 1.14E+01                            |  |  |  |  |  |
| 1.00E-04                            |  |  |  |  |  |
| 2.79E-13                            |  |  |  |  |  |
| 2.89E-10                            |  |  |  |  |  |
| 8.36E-17                            |  |  |  |  |  |
| 5.32E-10                            |  |  |  |  |  |
| 5.28E-06                            |  |  |  |  |  |
| 4.09E-08                            |  |  |  |  |  |
| 2.82E-07                            |  |  |  |  |  |
| 1.82E-13                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

#### **Waste Stream Description**

This waste stream is a fire particulate ash. It could also be chunky material from moisture.

#### **Management Comments**

FBI ash was packaged in 55-gallon drums lined with a rigid polyethylene liner and one bag liner.

# Waste Stream ID: RF-MT0423 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-MT0423        | Stream Na | me N/A  |                     |                      |   |                          |        |          |         | Inventory      |           |               |
|----------|------------------|-----------|---------|---------------------|----------------------|---|--------------------------|--------|----------|---------|----------------|-----------|---------------|
| Local ID | N/A              | Handli    | ng CH   | Final Waste Form So | olidified Inorganics |   | <b>Waste Matrix Code</b> | S3111  | Activity | / Conce | ntrations Deca | yed to C  | <b>Y</b> 2002 |
|          |                  |           |         | <u> </u>            |                      |   |                          |        |          |         |                |           |               |
| Final Wa | ste Form Descrip | tors      |         |                     |                      | _ | Waste Material Para      | meters |          |         | Final Form Ra  | adionucli | des           |
| Categ    | ory: Defense TF  | RU Waste  | Source: | N/A                 |                      |   |                          |        | Average  |         |                | Турі      | cal           |

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 1.0    | 0.0   | 1.0   |
|                      | As-Generated Total | 1.0    | 0.0   | 1.0   |
| Final Form Volumes   |                    |        |       |       |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon POCs |                  | 1.0    | 0.0   | 1.0   |
|                | Final Form Total | 1.0    | 0.0   | 1.0   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 21.48                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 17.18                         |
| Other Inorganic Materials      | 35.32                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 3.44                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 9.46E+00                            |  |  |  |  |
| Np-237                   | 3.55E-05                            |  |  |  |  |
| Pu-238                   | 9.61E-01                            |  |  |  |  |
| Pu-239                   | 4.00E+01                            |  |  |  |  |
| Pu-240                   | 8.86E+00                            |  |  |  |  |
| Pu-241                   | 3.61E+01                            |  |  |  |  |
| Pu-242                   | 5.15E-04                            |  |  |  |  |
| Th-229                   | 3.37E-13                            |  |  |  |  |
| Th-230                   | 1.88E-09                            |  |  |  |  |
| Th-232                   | 9.35E-16                            |  |  |  |  |
| U-233                    | 9.07E-10                            |  |  |  |  |
| U-234                    | 3.43E-05                            |  |  |  |  |
| U-235                    | 4.73E-07                            |  |  |  |  |
| U-236                    | 3.15E-06                            |  |  |  |  |
| U-238                    | 9.33E-13                            |  |  |  |  |
|                          |                                     |  |  |  |  |

#### **Waste Stream Description**

"Soot heel is the material remaining after acid dissolution, filtering, and drying of soot (IDC 422)."

### **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX, or RF-MTXXXX), but has been recharacterized as non-mixed waste.

### Waste Stream ID: RF-MT0425 Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W040 Stream Name incinerator ash/TRM                                     |             |              |           |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|--------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID None Handling CH Final Wa  | ste Form    | Solidified I | norganics | Waste Matrix Code S3111        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |              |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3) | or Waste Ti | reatment F   | Process   | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |              |           | Iron-Base Metal/Alloys         | 2.67                          | Am-241          | 1.18E+00                            |
| ContainerType   | Stored      | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 1.24E-05                            |
| Drum / 55 gallon  | 0.2         | 0.0          | 0.2       | Other Metal/Alloys             | 0.00                          | Pu-238          | 1.48E-01                            |
|   |             |              |           | Other Inorganic Materials      | 8.69                          | Pu-239          | 3.46E+00                            |
| As-Generated Total  | 0.2         | 0.0          | 0.2       | Cellulosics                    | 12.89                         | Pu-240          | 7.92E-01                            |
| Final Form Volumes  |             |              |           | Rubber                         | 0.00                          | Pu-241          | 1.14E+01                            |
| ContainerType   | Stored      | Proj.        | Total     | Plastics                       | 2.01                          | Pu-242          | 1.00E-04                            |
| 55 Gallon Drum  | 0.2         | 0.0          | 0.2       | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.79E-13                            |
|   |             |              |           | Cement (Solidified)            | 0.00                          | Th-230          | 2.89E-10                            |
| Final Form Total  | 0.2         | 0.0          | 0.2       | Vitrified                      | 0.00                          | Th-232          | 8.36E-17                            |
|   |             |              |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 5.32E-10                            |
|   |             |              |           | Soils                          | 0.00                          | U-234           | 5.28E-06                            |
|   |             |              |           | Packaging Material, Steel      | 138.57                        | U-235           | 4.09E-08                            |
|   |             |              |           | Packaging Material, Plastic    | 32.46                         | U-236           | 2.82E-07                            |
|   |             |              |           | Packaging Material, Lead       | 0.00                          | U-238           | 1.82E-13                            |
|   |             |              |           | Packaging Material, Steel Plug | 0.00                          | <u> </u>        | -                                   |

#### **Waste Stream Description**

This waste stream is a fire particulate ash. It could also be chunky material from moisture.

#### **Management Comments**

FBI ash was packaged in 55-gallon drums lined with a rigid polyethylene liner and one bag liner.

# RF-MT-0438 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Insulation/TRM Inventory Date 9/30/2002 HQ ID RF-W057 IDC 438 СН Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors** Waste Material Parameters **Final Form Radionuclides** Source: Other/Multiple Sources Category: Defense TRU Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.6    | 0.0   | 0.6   |
| As-Generated Total   | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 29.75                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 40.01                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 2.01                          |
| Plastics                       | 15.52                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.55                        |
| Packaging Material, Plastic    | 31.51                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.47E+00                            |
| Np-237  | 1.59E-05                            |
| Pu-238  | 6.45E-01                            |
| Pu-239  | 2.04E+01                            |
| Pu-240  | 4.64E+00                            |
| Pu-241  | 3.75E+01                            |
| Pu-242  | 3.89E-04                            |
| Th-229  | 2.23E-13                            |
| Th-230  | 3.53E-09                            |
| Th-232  | 4.89E-16                            |
| U-233   | 5.00E-10                            |
| U-234   | 4.41E-05                            |
| U-235   | 9.21E-07                            |
| U-236   | 1.65E-06                            |
| U-238   | 6.01E-09                            |

#### **Waste Stream Description**

This waste stream is contaminated insulation.

#### **Management Comments**

55 gallon drums DOT 7A TYPE A; metal boxes.

# Waste Stream ID: RF-MT0440 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Glass/TRM

Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5122 Activity Concentrations Decayed to CY 2002

| ocal ID           | None              | Handling | СН       | Final Waste Form       | Inorganic Non-Metal |
|-------------------|-------------------|----------|----------|------------------------|---------------------|
| Final Wa<br>Categ | ste Form Descrip  |          | roo: [7  | Other/Multiple Sources |                     |
| ·                 |                   |          | ource. [ | other/waitiple oddrees |                     |
|                   | olume Detail (m3) |          |          |                        |                     |

| As-Generated volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 2.3    | 0.0   | 2.3   |
|                      | As Congreted Total | 2.3    | 0.0   | 23    |

| Stored | Proi | Total |
|--------|------|-------|

|                  | 2.0 | 0.0 | 2.0 |
|------------------|-----|-----|-----|
| _                |     |     |     |
| Final Form Total | 23  | 0.0 | 2.3 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.39                         |
| Aluminum-Base Metal/Alloys     | 1.38                          |
| Other Metal/Alloys             | 0.72                          |
| Other Inorganic Materials      | 184.09                        |
| Cellulosics                    | 12.76                         |
| Rubber                         | 0.00                          |
| Plastics                       | 33.08                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.45                        |
| Packaging Material, Plastic    | 29.31                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.27E-01                            |
| Np-237  | 6.84E-06                            |
| Pu-238  | 6.30E-02                            |
| Pu-239  | 2.02E+00                            |
| Pu-240  | 4.72E-01                            |
| Pu-241  | 4.22E+00                            |
| Pu-242  | 4.36E-05                            |
| Th-229  | 1.77E-13                            |
| Th-230  | 7.89E-09                            |
| Th-232  | 4.98E-17                            |
| U-233   | 3.25E-10                            |
| U-234   | 7.43E-05                            |
| U-235   | 2.38E-06                            |
| U-236   | 1.68E-07                            |
| U-238   | 7.12E-07                            |

#### **Waste Stream Description**

Final Form Volumes
ContainerType
55 Gallon Drum

RF-W052

This waste stream is made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows.

#### **Management Comments**

DOT 7A TYPE A metal boxes and DOT 7A TYPE A drums.

### Waste Stream ID: RF-MT0442

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID RF-W052 Stream Name Glass/TRM   |          |            |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|----------|------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID None Handling CH Final Was   | ste Form | norganic N | Non-Metal | Waste Matrix Code S5122      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou Waste Volume Detail (m3) | rces     |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |            | 1         | Iron-Base Metal/Alloys       | 4.54                          | Am-241     | 3.45E-01                            |
| ContainerType   | Stored   | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 2.14E-06                            |
| Drum / 55 gallon  | 0.8      | 0.0        | 0.8       | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.52E-02                            |
|   | I        |            |           | Other Inorganic Materials    | 306.14                        | Pu-239     | 1.91E+00                            |
| As-Generated Total  | 8.0      | 0.0        | 0.8       | Cellulosics                  | 12.84                         | Pu-240     | 4.35E-01                            |
| Final Form Volumes  |          |            | 1         | Rubber                       | 0.00                          | Pu-241     | 4.31E+00                            |
| ContainerType   | Stored   | Proj.      | Total     | Plastics                     | 21.90                         | Pu-242     | 3.95E-05                            |
| 55 Gallon Drum  | 0.8      | 0.0        | 0.8       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 3.90E-14                            |
|   |          |            |           | Cement (Solidified)          | 0.00                          | Th-230     | 1.24E-08                            |
| Final Form Total  | 8.0      | 0.0        | 0.8       | Vitrified                    | 0.00                          | Th-232     | 4.59E-17                            |
|   |          |            |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 7.93E-11                            |
|   |          |            |           | Soils                        | 0.00                          | U-234      | 1.16E-04                            |
|   |          |            |           | Packaging Material, Steel    | 138.44                        | U-235      | 3.55E-06                            |
|   |          |            |           | Packaging Material, Plastic  | 28.26                         | U-236      | 1.55E-07                            |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

3.87E-07

#### **Waste Stream Description**

This waste stream is made up of Raschig Rings which are borosilicate glass rings used to maintain subcritical conditions in fissile storage tanks.

#### **Management Comments**

DOT 7A TYPE A metal boxes and DOT 7A TYPE A drums.

#### RF-MT0443 Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W052<br>N/A            | Stream Name |      |                                      |   | Waste Matrix Code S5122   | A attribute |                    | y Date 9/30/2002 |
|----------|---------------------------|-------------|------|--------------------------------------|---|---------------------------|-------------|--------------------|------------------|
| Local ID | IN/A                      | Handling    | CIT  | Final Waste Form Inorganic Non-Metal |   | waste watrix code 33122   | Activity C  | Concentrations Dec | ayed to CT 2002  |
| Final Wa | ste Fo <u>rm Descri</u> p | otors       |      |                                      | _ | Waste Material Parameters |             | Final Form R       | adionuclides     |
| Catoo    | Defense Ti                | SII Waste   | Mate | rials Production/Decontamination and |   |                           | Average     |                    | Typical          |

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 19.3   | 0.0   | 19.3  |
|                      | As-Generated Total | 19.3   | 0.0   | 19.3  |

Decommissioning

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 19.4   | 0.0   | 19.4  |
|                    |        |       |       |

Final Form Total 19.4 0.0 19.4

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 337.60                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.65                         |
| Solidified, Inorganic Matrix   | 0.96                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 24.56                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|         | inai Form Radionucides |  |  |  |
|---------|------------------------|--|--|--|
|         | Typical                |  |  |  |
| Isotope | Concentration (Ci/m3)  |  |  |  |
| •       | ` ′                    |  |  |  |
| Am-241  | 1.29E-01               |  |  |  |
| Np-237  | 4.37E-07               |  |  |  |
| Pu-238  | 5.33E-02               |  |  |  |
| Pu-239  | 1.28E+00               |  |  |  |
| Pu-240  | 2.92E-01               |  |  |  |
| Pu-241  | 3.87E+00               |  |  |  |
| Pu-242  | 3.44E-05               |  |  |  |
| Th-229  | 5.44E-15               |  |  |  |
| Th-230  | 9.85E-10               |  |  |  |
| Th-232  | 3.08E-17               |  |  |  |
| U-233   | 1.25E-11               |  |  |  |
| U-234   | 1.01E-05               |  |  |  |
| U-235   | 3.49E-07               |  |  |  |
| U-236   | 1.04E-07               |  |  |  |
| U-238   | 7.68E-06               |  |  |  |

#### **Waste Stream Description**

"Rachig rings leached with dilute nitric acid or water, and rinsed with carbon tetrachloride or 1,1,1-trichloroethane prior to removal from process tanks."

#### **Management Comments**

#### Appendix J Waste Stream ID: RF-MT0444 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Ground Leaded Glass/TRM HQ ID RF-W032 Inventory Date 9/30/2002 IDC 444, 855 CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5122 Local ID Handling Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 8802 Can             | 0.0    | 0.0   | 0.0   |
| 8804 Can             | 0.0    | 0.0   | 0.0   |
| Drum / 55 gallon     | 15.8   | 1.0   | 16.8  |
| POC / 55 gallon      | 7.7    | 0.0   | 7.7   |
| Standard Waste Box   | 19.0   | 0.0   | 19.0  |
| As-Generated Total   | 42.5   | 1.0   | 43.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 16.3   | 1.0   | 17.3  |
| 55 Gallon POCs     |                  | 7.7    | 0.0   | 7.7   |
| Standard Waste Box |                  | 18.9   | 0.0   | 18.9  |
|                    | Final Form Total | 42.9   | 1.0   | 43.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 22.38                         |
| Aluminum-Base Metal/Alloys     | 1.10                          |
| Other Metal/Alloys             | 85.37                         |
| Other Inorganic Materials      | 300.89                        |
| Cellulosics                    | 9.20                          |
| Rubber                         | 16.05                         |
| Plastics                       | 16.43                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 212.47                        |
| Packaging Material, Plastic    | 16.61                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.82E-01                            |
| Np-237  | 5.10E-06                            |
| Pu-238  | 1.12E-01                            |
| Pu-239  | 2.63E+00                            |
| Pu-240  | 6.02E-01                            |
| Pu-241  | 8.61E+00                            |
| Pu-242  | 7.60E-05                            |
| Th-229  | 1.10E-13                            |
| Th-230  | 2.73E-10                            |
| Th-232  | 6.36E-17                            |
| U-233   | 2.12E-10                            |
| U-234   | 4.50E-06                            |
| U-235   | 4.72E-08                            |
| U-236   | 2.14E-07                            |
| U-238   | 1.42E-10                            |

#### **Waste Stream Description**

Matrix consits of crushed glass light bulbs and leaded glass that is crushed on removal.

#### **Management Comments**

The glass waste is packaged in 55- gallon drums that are lined with one fiberboard liner and two polyethylene bags or metal boxes. Drums are placed in TRUPACT II containers.

# Waste Stream ID: RF-MT0480 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W011 Stream Name LIGHT METAL/TRM Inventory Date 9/30/2002

Local ID IDC 480 Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Box / Metal          | 6.3    | 0.0   | 6.3   |
| Drum / 55 gallon     | 27.2   | 10.4  | 37.6  |
| Standard Waste Box   | 66.5   | 0.0   | 66.5  |
| As-Generated Total   | 100.1  | 10.4  | 110.5 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 27.3   | 10.4  | 37.7  |
| Standard Waste Box | 69.9   | 0.0   | 69.9  |
|                    |        |       |       |

**Final Form Total** 97.2 10.4 107.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 243.09                        |
| Aluminum-Base Metal/Alloys     | 42.78                         |
| Other Metal/Alloys             | 41.63                         |
| Other Inorganic Materials      | 8.09                          |
| Cellulosics                    | 7.30                          |
| Rubber                         | 2.94                          |
| Plastics                       | 12.21                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.03                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 147.71                        |
| Packaging Material, Plastic    | 13.02                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| -inai Form Radionuciides |                                     |  |
|--------------------------|-------------------------------------|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |
| Am-241                   | 6.39E-01                            |  |
| Cs-137                   | 4.71E-05                            |  |
| Np-237                   | 3.49E-06                            |  |
| Pu-238                   | 1.19E-01                            |  |
| Pu-239                   | 2.80E+00                            |  |
| Pu-240                   | 6.42E-01                            |  |
| Pu-241                   | 8.40E+00                            |  |
| Pu-242                   | 7.50E-05                            |  |
| Th-229                   | 5.84E-14                            |  |
| Th-230                   | 2.46E-09                            |  |
| Th-232                   | 6.77E-17                            |  |
| U-233                    | 1.22E-10                            |  |
| U-234                    | 2.49E-05                            |  |
| U-235                    | 7.03E-07                            |  |
| U-236                    | 2.28E-07                            |  |
| U-238                    | 3.31E-07                            |  |

#### **Waste Stream Description**

This waste stream is metal tools, etc. generated during glovebox operations.

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and several bag liners.

### Waste Stream ID: RF-MT0488

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Metal/TRM HQ ID RF-W011 Inventory Date 9/30/2002 N/A СН Final Waste Form Uncategorized Metal Waste Matrix Code S5112 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: General Building Waste and Decommissioning Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.8    | 0.0   | 0.8   |
| Standard Waste Box   | 114.0  | 195.7 | 309.7 |
|                      |        |       |       |

| As-Generated Total | 114.8 | 195.7 | 310.5 |
|--------------------|-------|-------|-------|

| Stored | Proj. | Total   |
|--------|-------|---------|
| 0.8    | 0.0   | 0.8     |
| 113.4  | 194.7 | 308.1   |
|        | 0.8   | 0.8 0.0 |

Final Form Total 114.2 194.7 308.9

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 234.15                        |
| Aluminum-Base Metal/Alloys     | 0.42                          |
| Other Metal/Alloys             | 83.76                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 4.33                          |
| Rubber                         | 23.36                         |
| Plastics                       | 4.62                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 152.73                        |
| Packaging Material, Plastic    | 11.11                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.31E-01                            |
| Np-237  | 3.27E-06                            |
| Pu-238  | 4.04E-02                            |
| Pu-239  | 9.45E-01                            |
| Pu-240  | 2.16E-01                            |
| Pu-241  | 3.11E+00                            |
| Pu-242  | 2.74E-05                            |
| Th-229  | 7.97E-14                            |
| Th-230  | 6.44E-09                            |
| Th-232  | 2.28E-17                            |
| U-233   | 1.48E-10                            |
| U-234   | 6.03E-05                            |
| U-235   | 1.91E-06                            |
| U-236   | 7.70E-08                            |
| U-238   | 1.68E-08                            |

#### **Waste Stream Description**

"This waste consists of lead tape and/or lead shielding from within the glovebox system, or glovebox parts with bonded lead"

#### **Management Comments**

7.69E-10

3.74E-17

9.81E-11

8.27E-06

4.15E-07

1.26E-07

3.50E-05

#### Waste Stream ID: RF-MT0490

## Appendix J

|           |                   | TRU                               | WASTE E   | BASELI      | NE INVENT | ORY WASTE PROFILE            |                               |            |                                     |
|-----------|-------------------|-----------------------------------|-----------|-------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID     | RF-W066           | Stream Name Filters and Media/TRM |           |             |           |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID  | N/A               | Handling CH Final Wa              | aste Form | Filter      |           | Waste Matrix Code S5410      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Was | ste Form Descript | tors                              |           |             |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Categ     | Defense TR        | U Waste Treatment Decommissioning |           | ination and | d         | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|           |                   |                                   |           |             |           | Iron-Base Metal/Alloys       | 8.36                          | Am-241     | 2.61E-01                            |
| As-Ge     | nerated Volumes   |                                   |           |             |           | Aluminum-Base Metal/Alloys   | 18.42                         | Np-237     | 2.33E-06                            |
| Contai    | inerType          |                                   | Stored    | Proj.       | Total     | Other Metal/Alloys           | 11.24                         | Pu-238     | 6.52E-02                            |
| 1/2 Wo    | ood Box           |                                   | 1.6       | 0.0         | 1.6       | Other Inorganic Materials    | 11.37                         | Pu-239     | 1.55E+00                            |
|           |                   | As-Generated Total                | 1.6       | 0.0         | 1.6       | Cellulosics                  | 4.31                          | Pu-240     | 3.55E-01                            |
|           |                   |                                   |           |             |           | Rubber                       | 12.91                         | Pu-241     | 4.76E+00                            |
|           | Form Volumes      |                                   |           |             |           | Plastics                     | 6.45                          | Pu-242     | 4.24E-05                            |
|           | inerType          |                                   | Stored    | Proj.       | Total     | Solidified, Inorganic Matrix | 3.84                          | Th-229     | 5.12E-14                            |
| Standa    | ard Waste Box     |                                   | 1.9       | 0.0         | 1.9       | Coment (Solidified)          | 0.00                          | Th 220     | 7 60E 10                            |

1.9

**Final Form Total** 

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

44.06

152.73

2.49

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

"HEPA filters (24 x 24), not acid contaminated, are large HEPA filters used in the filter plenums of plutonium processing buildings to filter room and glovebox air. The materials of construction consist of a filter medium contained within a wood frame. Older medium consisted of glass fiber with a small percentage of asbestos and a corrugated aluminum foil. Newer medium is constructed of glass and aromatic polyamide fibers (Nomex) and aluminum alloy metal. Wood filter frames are constructed of  $\frac{1}{2}$  -inch fire retardant exterior grade plywood, or particle board."

#### **Management Comments**

### Waste Stream ID: RF-MT-0491

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W066 Stream Name Filters & media/TRM          |                                    |       |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|------------------------------------|-------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID None Handling CH Final Was                    | indling CH Final Waste Form Filter |       |       |                                | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                           |                                    |       |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | ırces                              |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |                                    |       |       | Iron-Base Metal/Alloys         | 9.55                          | Am-241          | 7.75E-02                            |
| ContainerType  | Stored                             | Proj. | Total | Aluminum-Base Metal/Alloys     | 13.46                         | Np-237          | 7.77E-07                            |
| Drum / 55 gallon                                       | 0.6                                | 0.0   | 0.6   | Other Metal/Alloys             | 3.34                          | Pu-238          | 8.99E-03                            |
|  | I                                  |       |       | Other Inorganic Materials      | 16.57                         | Pu-239          | 2.12E-01                            |
| As-Generated Total                                     | 0.6                                | 0.0   | 0.6   | Cellulosics                    | 12.89                         | Pu-240          | 4.85E-02                            |
| Final Form Volumes                                     |                                    |       |       | Rubber                         | 0.96                          | Pu-241          | 6.74E-01                            |
| ContainerType  | Stored                             | Proj. | Total | Plastics                       | 20.80                         | Pu-242          | 5.98E-06                            |
| 55 Gallon Drum   | 0.6                                | 0.0   | 0.6   | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 1.72E-14                            |
|  |                                    |       |       | Cement (Solidified)            | 0.00                          | Th-230          | 3.65E-10                            |
| Final Form Total                                       | 0.6                                | 0.0   | 0.6   | Vitrified                      | 0.00                          | Th-232          | 5.12E-18                            |
|  |                                    |       |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 3.29E-11                            |
|  |                                    |       |       | Soils                          | 0.00                          | U-234           | 3.54E-06                            |
|  |                                    |       |       | Packaging Material, Steel      | 138.46                        | U-235           | 2.76E-07                            |
|  |                                    |       |       | Packaging Material, Plastic    | 24.64                         | U-236           | 1.73E-08                            |
|  |                                    |       |       | Packaging Material, Lead       | 0.00                          | U-238           | 9.18E-10                            |
|  |                                    |       |       | Packaging Material, Steel Plug | 0.00                          | •               | -                                   |

#### **Waste Stream Description**

491 - Room air exhaust filters only. This waste must be collected in 55-gallon or 35-gallon drums for assay.

#### **Management Comments**

Filter waste is packaged in 55-gallon drums and metal standard waste boxes.

#### Appendix J RF-MT0523A Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Organics/TRM HQ ID RF-W013 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Organics Waste Matrix Code S3219 Activity Concentrations Decayed to CY 2002 Local ID Handling **Waste Material Parameters** Final Form Radionuclides

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| Stored | Proj.                    | Total                                    |
|--------|--------------------------|--|
| 0.0    | 0.0                      | 0.0                                      |
| 0.0    | 0.0                      | 0.0                                      |
| 0.0    | 0.0                      | 0.0                                      |
| 4.4    | 0.0                      | 4.4                                      |
| 3.1    | 0.0                      | 3.1                                      |
|        | 0.0<br>0.0<br>0.0<br>4.4 | 0.0 0.0<br>0.0 0.0<br>0.0 0.0<br>4.4 0.0 |

| As-Generated Total | 7.5 | 0.0 | 7.5 |
|--------------------|-----|-----|-----|

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 7.7    | 0.0   | 7.7   |
| 55 Gallon POCs     |                  | 3.1    | 0.0   | 3.1   |
|                    | Final Form Total | 10.8   | 0.0   | 10.8  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 36.82                         |
| Aluminum-Base Metal/Alloys     | 6.86                          |
| Other Metal/Alloys             | 12.60                         |
| Other Inorganic Materials      | 21.10                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 1.53                          |
| Plastics                       | 30.65                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 18.40                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 250.10                        |
| Packaging Material, Plastic    | 29.98                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucides             |  |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |  |
| 3.52E+00                            |  |  |  |  |  |  |  |
| 3.05E-05                            |  |  |  |  |  |  |  |
| 4.13E-01                            |  |  |  |  |  |  |  |
| 9.69E+00                            |  |  |  |  |  |  |  |
| 2.22E+00                            |  |  |  |  |  |  |  |
| 3.17E+01                            |  |  |  |  |  |  |  |
| 2.80E-04                            |  |  |  |  |  |  |  |
| 6.43E-13                            |  |  |  |  |  |  |  |
| 3.36E-09                            |  |  |  |  |  |  |  |
| 2.34E-16                            |  |  |  |  |  |  |  |
| 1.25E-09                            |  |  |  |  |  |  |  |
| 3.84E-05                            |  |  |  |  |  |  |  |
| 3.26E-05                            |  |  |  |  |  |  |  |
| 7.89E-07                            |  |  |  |  |  |  |  |
| 3.78E-05                            |  |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |  |

#### **Waste Stream Description**

This output is predominantly consolidated excess solid sample material and solid remnants of processed sample materials. This output contains greater than 50% by volume organic particulates.

#### **Management Comments**

### Waste Stream ID: RF-MT0523B

### Appendix J TRII WASTE BASELINE INVENTORY WASTE PROFILE

| IKU V   | VASIE     | ASELII     | AE INVENI | ORT WASTE PROFILE            |                               |            |                                     |
|---|-----------|------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W013 Stream Name Solidified Organics/TRM                               |           |            |           |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final Wa   |           |            |           |                              | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom | nmissionin | g         | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |           | Iron-Base Metal/Alloys       | 36.82                         | Am-241     | 3.52E+00                            |
| ContainerType   | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237     | 3.05E-05                            |
| 8801 Can  | 0.0       |            |           | Other Metal/Alloys           | 12.60                         | Pu-238     | 4.13E-01                            |
| 8802 Can  | 0.0       | 0.0        | 0.0       | Other Inorganic Materials    | 21.10                         | Pu-239     | 9.69E+00                            |
| Can / 1-Liter   | 0.0       |            |           | Cellulosics                  | 0.00                          | Pu-240     | 2.22E+00                            |
| Drum / 55 gallon  | 4.4       | 0.0        |           | Rubber                       | 1.53                          | Pu-241     | 3.17E+01                            |
| POC / 55 gallon   | 3.1       | 0.0        |           | Plastics                     | 30.65                         | Pu-242     | 2.80E-04                            |
| . 00 / 00 ga  | l         |            |           | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.43E-13                            |
| As-Generated Total  | 7.5       | 0.0        | 7.5       | Cement (Solidified)          | 0.00                          | Th-230     | 3.36E-09                            |
| Final Form Volumes  |           |            |           | Vitrified                    | 0.00                          | Th-232     | 2.34E-16                            |
| ContainerType   | Stored    | Proj.      | Total     | Solidified, Organic Matrix   | 18.40                         | U-233      | 1.25E-09                            |
| 55 Gallon Drum  | 7.7       | 0.0        |           | Soils                        | 0.00                          | U-234      | 3.84E-05                            |
| 55 Gallon POCs  | 3.1       | 0.0        |           | Packaging Material, Steel    | 250.10                        | U-235      | 3.26E-05                            |
| o canon i coo   | 0.1       | 0.0        | <u> </u>  | Packaging Material, Plastic  | 29.98                         | U-236      | 7.89E-07                            |

#### **Waste Stream Description**

This output is predominantly consolidated excess solid sample material and solid remnants of processed sample materials but may also contain some sample vials and foil pans generated in the analytical processes. This output contains at least 50% by volume homogeneous solids.

10.8

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

3.78E-05

0.0

Final Form Total

10.8

#### **Management Comments**

### Waste Stream ID: RF-MT0523C

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | .,          |                         |             |                              |                               |            |                                     |
|---|-------------|-------------------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W013 Stream Name Solidified Organics/TRM                               |             |                         |             |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final Wa   | eous Debris | Waste Matrix Code S5420 | Activity Co |                              | ecayed to CY 2002             |            |                                     |
| Final Waste Form Descriptors  |             |                         |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom   | nmissionin              | g           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |                         |             | Iron-Base Metal/Alloys       | 36.82                         | Am-241     | 3.52E+00                            |
| ContainerType   | Stored      | Proj.                   | Total       | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237     | 3.05E-05                            |
| 8801 Can  | 0.0         | 0.0                     | 0.0         | Other Metal/Alloys           | 12.60                         | Pu-238     | 4.13E-01                            |
| 8802 Can  | 0.0         | 0.0                     | 0.0         | Other Inorganic Materials    | 21.10                         | Pu-239     | 9.69E+00                            |
| Can / 1-Liter   | 0.0         | 0.0                     | 0.0         | Cellulosics                  | 0.00                          | Pu-240     | 2.22E+00                            |
| Drum / 55 gallon  | 4.4         | 0.0                     | 4.4         | Rubber                       | 1.53                          | Pu-241     | 3.17E+01                            |
| POC / 55 gallon   | 3.1         | 0.0                     |             | Plastics                     | 30.65                         | Pu-242     | 2.80E-04                            |
|   |             |                         |             | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.43E-13                            |
| As-Generated Total  | 7.5         | 0.0                     | 7.5         | Cement (Solidified)          | 0.00                          | Th-230     | 3.36E-09                            |
| Final Form Volumes  |             |                         |             | Vitrified                    | 0.00                          | Th-232     | 2.34E-16                            |
| ContainerType   | Stored      | Proj.                   | Total       | Solidified, Organic Matrix   | 18.40                         | U-233      | 1.25E-09                            |
| 55 Gallon Drum  | 7.7         | 0.0                     |             | Soils                        | 0.00                          | U-234      | 3.84E-05                            |
| 55 Gallon POCs  | 3.1         | 0.0                     |             | Packaging Material, Steel    | 250.10                        | U-235      | 3.26E-05                            |
|   |             |                         |             | Packaging Material, Plastic  | 29.98                         | U-236      | 7.89E-07                            |
| Final Form Total  | 10.8        | 0.0                     | 10.8        | Packaging Material, Lead     | 0.00                          | U-238      | 3.78E-05                            |

#### **Waste Stream Description**

"This waste stream consists of greater than 50% by volume inorganic debris from decontamination and decommissioning activities. May contain excess solid sample material, and solid remnants of processed sample materials generated in the analytical processes."

Packaging Material, Steel Plug

0.00

#### **Management Comments**

3.84E-05

3.26E-05

7.89E-07

3.78E-05

0.00

250.10

29.98

0.00

0.00

U-234

U-235

U-236

U-238

### Waste Stream ID: RF-MT0523D

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU W   | VASTE     | BASELIN    | NE INVENTO  | DRY WASTE PROFILE            |                               |            |                                     |
|---|-----------|------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W013 Stream Name Solidified Organics/TRM                               |           |            |             |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final Wa   | ste Form  | Heterogen  | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom | nmissionin | g           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |             | Iron-Base Metal/Alloys       | 36.82                         | Am-241     | 3.52E+00                            |
| ContainerType   | Stored    | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237     | 3.05E-05                            |
| 8801 Can  | 0.0       |            |             | Other Metal/Alloys           | 12.60                         | Pu-238     | 4.13E-01                            |
| 8802 Can  | 0.0       |            | 0.0         | Other Inorganic Materials    | 21.10                         | Pu-239     | 9.69E+00                            |
| Can / 1-Liter   | 0.0       | 0.0        | 0.0         | Cellulosics                  | 0.00                          | Pu-240     | 2.22E+00                            |
| Drum / 55 gallon  | 4.4       |            | 4.4         | Rubber                       | 1.53                          | Pu-241     | 3.17E+01                            |
| POC / 55 gallon   | 3.1       | 0.0        |             | Plastics                     | 30.65                         | Pu-242     | 2.80E-04                            |
| . 00 / 00 ganon   |           |            |             | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.43E-13                            |
| As-Generated Total  | 7.5       | 0.0        | 7.5         | Cement (Solidified)          | 0.00                          | Th-230     | 3.36E-09                            |
| Final Form Volumes  |           |            |             | Vitrified                    | 0.00                          | Th-232     | 2.34E-16                            |
| ContainerType   | Stored    | Proj.      | Total       | Solidified, Organic Matrix   | 18.40                         | U-233      | 1.25E-09                            |

Soils

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

#### **Waste Stream Description**

55 Gallon Drum

55 Gallon POCs

"This waste stream consists of greater than 50% by volume organic debris from decontamination and decommissioning activities. May contain excess solid sample material, and solid remnants of processed sample materials generated in the analytical processes."

7.7

3.1

10.8

7.7

3.1

10.8

Final Form Total

0.0

0.0

0.0

#### **Management Comments**

#### RF-MT0523E Waste Stream ID:

# Appendix J

|   | IRU WASIE           | SASELII    | NE INVENT    | ORY WASTE PROFILE            |                               |                 |                                     |
|---|---------------------|------------|--------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID RF-W013 Stream Name Solidified Orga                           | nics/TRM            |            |              |                              |                               | Invent          | ory Date 9/30/2002                  |
| Local ID N/A Handling CH  | Final Waste Form    | Heterogen  | neous Debris | Waste Matrix Code S5490      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |                     |            |              | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Decont Waste Volume Detail (m3) | amination and Decon | nmissionin | ng           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |                     |            |              | Iron-Base Metal/Alloys       | 36.82                         | Am-241          | 3.52E+00                            |
| ContainerType   | Stored              | Proj.      | Total        | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237          | 3.05E-05                            |
| 8801 Can  | 0.0                 |            |              | Other Metal/Alloys           | 12.60                         | Pu-238          | 4.13E-01                            |
| 8802 Can  | 0.0                 | 0.0        | 0.0          | Other Inorganic Materials    | 21.10                         | Pu-239          | 9.69E+00                            |
| Can / 1-Liter   | 0.0                 |            |              | Cellulosics                  | 0.00                          | Pu-240          | 2.22E+00                            |
| Drum / 55 gallon  | 4.4                 |            |              | Rubber                       | 1.53                          | Pu-241          | 3.17E+01                            |
| POC / 55 gallon   | 3.1                 |            |              | Plastics                     | 30.65                         | Pu-242          | 2.80E-04                            |
| . 00, 00 35   | 0.1                 | 0.0        | <u> </u>     | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 6.43E-13                            |
| As-Genera   | nted Total 7.5      | 0.0        | 7.5          | Cement (Solidified)          | 0.00                          | Th-230          | 3.36E-09                            |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 7.7    | 0.0   | 7.7   |
| 55 Gallon POCs     |                  | 3.1    | 0.0   | 3.1   |
|                    | Final Form Total | 10.8   | 0.0   | 10.8  |

| Material Parameter             | Density<br>(kg/m3) |
|--------------------------------|--------------------|
| Iron-Base Metal/Alloys         | 36.82              |
| Aluminum-Base Metal/Alloys     | 6.86               |
| Other Metal/Alloys             | 12.60              |
| Other Inorganic Materials      | 21.10              |
| Cellulosics                    | 0.00               |
| Rubber                         | 1.53               |
| Plastics                       | 30.65              |
| Solidified, Inorganic Matrix   | 0.00               |
| Cement (Solidified)            | 0.00               |
| Vitrified                      | 0.00               |
| Solidified, Organic Matrix     | 18.40              |
| Soils                          | 0.00               |
| Packaging Material, Steel      | 250.10             |
| Packaging Material, Plastic    | 29.98              |
| Packaging Material, Lead       | 0.00               |
| Packaging Material, Steel Plug | 0.00               |

# Th-232 2.34E-16

1.25E-09

3.84E-05

3.26E-05

7.89E-07

3.78E-05

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

"This waste stream consists of debris from decontamination and decommissioning activities and may contain excess solid sample material, and solid remnants of processed sample materials generated in the analytical processes. This output contains at least 50% by volume debris waste."

#### **Management Comments**

#### Appendix J RF-MT0531 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Organics/TRM HQ ID RF-W013 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Organics Waste Matrix Code S3229 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters** Final Form Radionuclides Category: Defense TRU Waste Source: Decontamination and Decommissioning

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.2    | 0.0   | 0.2   |
| As-Generated Total   | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| Final Form Total     | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 701.69                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 17.18                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 7.02E-03                            |  |  |  |  |
| Np-237                   | 1.50E-08                            |  |  |  |  |
| Pu-238                   | 3.53E-03                            |  |  |  |  |
| Pu-239                   | 8.27E-02                            |  |  |  |  |
| Pu-240                   | 1.89E-02                            |  |  |  |  |
| Pu-241                   | 2.72E-01                            |  |  |  |  |
| Pu-242                   | 2.39E-06                            |  |  |  |  |
| Th-229                   | 7.90E-17                            |  |  |  |  |
| Th-230                   | 6.92E-12                            |  |  |  |  |
| Th-232                   | 2.00E-18                            |  |  |  |  |
| U-233                    | 2.73E-13                            |  |  |  |  |
| U-234                    | 1.26E-07                            |  |  |  |  |
| U-235                    | 9.79E-10                            |  |  |  |  |
| U-236                    | 6.74E-09                            |  |  |  |  |
| U-238                    | 4.34E-15                            |  |  |  |  |
|                          |                                     |  |  |  |  |

#### **Waste Stream Description**

Miscellaneous organic sludge consists of solid materials removed from process piping and equipment during deactivation and decontamination and decommissioning activities in plutonium buildings.

#### **Management Comments**

### Waste Stream ID: RF-MT0532E

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID RF-W068 Stream Name Particulate Sludge/TRM                                |           |               |           |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-----------|---------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa  | ste Form  | Solidified In | norganics | Waste Matrix Code S3119        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |               |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom | missionin     | g         | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |               |           | Iron-Base Metal/Alloys         | 19.44                         | Am-241          | 8.56E+00                            |
| ContainerType   | Stored    | Proj.         | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 2.18E-04                            |
| 8801 Can  | 0.0       | 0.0           | 0.0       | Other Metal/Alloys             | 23.87                         | Pu-238          | 6.12E-01                            |
| 8802 Can  | 0.0       | 0.0           | 0.0       | Other Inorganic Materials      | 92.37                         | Pu-239          | 1.47E+01                            |
| 8804 Can  | 0.0       | 0.0           | 0.0       | Cellulosics                    | 12.89                         | Pu-240          | 3.35E+00                            |
| Can / 1-Liter   | 0.0       | 0.0           | 0.0       | Rubber                         | 0.00                          | Pu-241          | 4.68E+01                            |
| Drum / 55 gallon  | 5.8       | 0.0           | 5.8       | Plastics                       | 15.87                         | Pu-242          | 4.88E-04                            |
| POC / 55 gallon   | 6.0       | 0.0           | 6.0       | Solidified, Inorganic Matrix   | 80.40                         | Th-229          | 5.74E-12                            |
| Slip Lid Can  | 0.0       | 0.0           | 0.0       | Cement (Solidified)            | 0.00                          | Th-230          | 8.83E-09                            |
|   | I         |               |           | Vitrified                      | 0.00                          | Th-232          | 3.53E-16                            |
| As-Generated Total  | 11.9      | 0.0           | 11.9      | Solidified, Organic Matrix     | 0.00                          | U-233           | 1.05E-08                            |
| Final Form Volumes  |           |               |           | Soils                          | 0.00                          | U-234           | 9.27E-05                            |
| ContainerType   | Stored    | Proj.         | Total     | Packaging Material, Steel      | 288.04                        | U-235           | 2.78E-06                            |
| 55 Gallon Drum  | 9.6       | 0.0           | 9.6       | Packaging Material, Plastic    | 27.26                         | U-236           | 1.19E-06                            |
| 55 Gallon POCs  | 6.0       | 0.0           | 6.0       | Packaging Material, Lead       | 0.00                          | U-238           | 4.60E-05                            |
| 3   |           |               |           | Packaging Material, Steel Plug | 0.00                          | L               |                                     |
| Final Form Total  | 15.6      | 0.0           | 15.6      | L                              |                               |                 |                                     |

#### **Waste Stream Description**

"This output is greater than 50% by volume inorganic particulates, predominantly consolidated excess solid sample material and solid remnants of processed sample materials and includes absorbed inorganic liquids and small quantities of other inorganic process sludges."

#### **Management Comments**

### Waste Stream ID: RF-MT0532F

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W068 Stream Name Particulate Sludge/TRM                                |           |            |           |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-----------|------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa  | ste Form  | norganic N | Ion-Metal | Waste Matrix Code S5129        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom | missionin  | 9         | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |           | Iron-Base Metal/Alloys         | 19.44                         | Am-241          | 8.56E+00                            |
| ContainerType   | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 2.18E-04                            |
| 8801 Can  | 0.0       | 0.0        | 0.0       | Other Metal/Alloys             | 23.87                         | Pu-238          | 6.12E-01                            |
| 8802 Can  | 0.0       | 0.0        | 0.0       | Other Inorganic Materials      | 92.37                         | Pu-239          | 1.47E+01                            |
| 8804 Can  | 0.0       | 0.0        | 0.0       | Cellulosics                    | 12.89                         | Pu-240          | 3.35E+00                            |
| Can / 1-Liter   | 0.0       | 0.0        | 0.0       | Rubber                         | 0.00                          | Pu-241          | 4.68E+01                            |
| Drum / 55 gallon  | 5.8       | 0.0        | 5.8       | Plastics                       | 15.87                         | Pu-242          | 4.88E-04                            |
| POC / 55 gallon   | 6.0       | 0.0        | 6.0       | Solidified, Inorganic Matrix   | 80.40                         | Th-229          | 5.74E-12                            |
| Slip Lid Can  | 0.0       | 0.0        | 0.0       | Cement (Solidified)            | 0.00                          | Th-230          | 8.83E-09                            |
| - F   | I         |            |           | Vitrified                      | 0.00                          | Th-232          | 3.53E-16                            |
| As-Generated Total  | 11.9      | 0.0        | 11.9      | Solidified, Organic Matrix     | 0.00                          | U-233           | 1.05E-08                            |
| Final Form Volumes  |           |            |           | Soils                          | 0.00                          | U-234           | 9.27E-05                            |
| ContainerType   | Stored    | Proj.      | Total     | Packaging Material, Steel      | 288.04                        | U-235           | 2.78E-06                            |
| 55 Gallon Drum  | 9.6       | 0.0        | 9.6       | Packaging Material, Plastic    | 27.26                         | U-236           | 1.19E-06                            |
| 55 Gallon POCs  | 6.0       | 0.0        | 6.0       | Packaging Material, Lead       | 0.00                          | U-238           | 4.60E-05                            |
|   |           |            |           | Packaging Material, Steel Plug | 0.00                          | L               |                                     |
| Final Form Total  | 15.6      | 0.0        | 15.6      | L                              |                               |                 |                                     |

#### **Waste Stream Description**

"Miscellaneous inorganic solids consists of inorganic debris materials such as mercury switches, thermometers, paint related materials such as dried paint, paint chips, floor sweepings with paint chips, and paint contaminated wipes, brushes, cartons, and pails, foreign materials, e.g., bolts, nuts, screws, glass, graphite, etc. separated from various foundry and scrape out IDCs, and excess sample containers. "

#### **Management Comments**

# Waste Stream ID: RF-MT0541 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-MT0541 Stream Name miscellaneous liquids/TRM Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code L1190 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| 8804 Can             | 0.1    | 0.0   | 0.1   |  |  |
| Can / 1-Gallon       | 0.0    | 0.0   | 0.0   |  |  |

As-Generated Total 0.2 0.0 0.2

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon POCs     | 4.4    | 0.0   | 4.4   |

**Final Form Total** 4.4 0.0 4.4

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 59.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.24E+00                            |
| Np-237  | 4.76E-06                            |
| Pu-238  | 3.16E-02                            |
| Pu-239  | 7.43E-01                            |
| Pu-240  | 1.69E-01                            |
| Pu-241  | 2.43E+00                            |
| Pu-242  | 2.14E-05                            |
| Th-229  | 4.59E-14                            |
| Th-230  | 6.19E-11                            |
| Th-232  | 1.79E-17                            |
| U-233   | 1.23E-10                            |
| U-234   | 1.13E-06                            |
| U-235   | 8.79E-09                            |
| U-236   | 6.03E-08                            |
| U-238   | 3.88E-14                            |

#### **Waste Stream Description**

These wastes are aqueous acidic liquid residues.

#### **Management Comments**

N/A

# Waste Stream ID: RF-MT0545 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W090 Stream Name Excess Chemicals/TRM Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S3160 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.96                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 23.87                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.18                         |
| Solidified, Inorganic Matrix   | 413.85                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |
|-------------------------------------|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| 6.37E-02                            |  |  |  |
| 1.37E-07                            |  |  |  |
| 3.21E-02                            |  |  |  |
| 7.51E-01                            |  |  |  |
| 1.72E-01                            |  |  |  |
| 2.47E+00                            |  |  |  |
| 2.18E-05                            |  |  |  |
| 7.18E-16                            |  |  |  |
| 6.28E-11                            |  |  |  |
| 1.81E-17                            |  |  |  |
| 2.48E-12                            |  |  |  |
| 1.15E-06                            |  |  |  |
| 8.89E-09                            |  |  |  |
| 6.12E-08                            |  |  |  |
| 3.94E-14                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

Solid excess chemicals contaminated with plutonium to TRU concentrations. Chemicals are expired or off-specification in some manner and are therefore not useable.

#### **Management Comments**

#### Appendix J RF-MT0800 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Sludge - Bldg 774 / TRM HQ ID RF-W010 Inventory Date 9/30/2002 Final Waste Form Solidified Inorganics Local ID None Handling CH Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002 **Waste Material Parameters** 

#### **Final Waste Form Descriptors**

Defense TRU Waste **Source:** Pollution Control or Waste Treatment Process Category:

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 60.7   | 0.0   | 60.7  |
| Drum / 85 gallon     | 1.6    | 0.0   | 1.6   |
| As-Generated Total   | 62.3   | 0.0   | 62.3  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 60.9   | 0.0   | 60.9  |
| 85 Gallon Drum     | 1.6    | 0.0   | 1.6   |

**Final Form Total** 62.5 0.0 62.5

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 458.25                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 16.52                         |
| Solidified, Inorganic Matrix   | 815.35                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 137.26                        |
| Packaging Material, Plastic    | 30.07                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 1.88E+01                            |  |  |
| Np-237                   | 7.35E-05                            |  |  |
| Pu-238                   | 5.30E-02                            |  |  |
| Pu-239                   | 1.24E+00                            |  |  |
| Pu-240                   | 2.84E-01                            |  |  |
| Pu-241                   | 4.08E+00                            |  |  |
| Pu-242                   | 3.59E-05                            |  |  |
| Th-229                   | 7.17E-13                            |  |  |
| Th-230                   | 9.39E-10                            |  |  |
| Th-232                   | 2.99E-17                            |  |  |
| U-233                    | 1.91E-09                            |  |  |
| U-234                    | 9.64E-06                            |  |  |
| U-235                    | 1.12E-06                            |  |  |
| U-236                    | 1.01E-07                            |  |  |
| U-238                    | 1.35E-07                            |  |  |
|                          | -                                   |  |  |

#### **Waste Stream Description**

This waste stream is a solid cemented sludge. It could have small amounts of free liquids in the bottom of the container.

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and two bag liners.

# Waste Stream ID: RF-MT0801 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W013 Stream Name Solidified Organics - Bldg 774/TRM Inventory Date 9/30/2002

Local ID IDC 801 Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 85.9   | 1.0   | 86.9  |
| Drum / 85 gallon     | 14.2   | 0.0   | 14.2  |
| As-Generated Total   | 100.1  | 1.0   | 101.1 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 86.1   | 1.0   | 87.1  |
| 85 Gallon Drum     |                  | 14.2   | 0.0   | 14.2  |
|                    | Final Form Total | 100.3  | 1.0   | 101.3 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 166.75                        |
| Solidified, Inorganic Matrix   | 955.49                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1032.33                       |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 132.02                        |
| Packaging Material, Plastic    | 30.57                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 1.24E+00                            |  |  |
| Np-237                   | 4.76E-06                            |  |  |
| Pu-238                   | 3.16E-02                            |  |  |
| Pu-239                   | 7.43E-01                            |  |  |
| Pu-240                   | 1.69E-01                            |  |  |
| Pu-241                   | 2.43E+00                            |  |  |
| Pu-242                   | 2.14E-05                            |  |  |
| Th-229                   | 4.59E-14                            |  |  |
| Th-230                   | 6.19E-11                            |  |  |
| Th-232                   | 1.79E-17                            |  |  |
| U-233                    | 1.23E-10                            |  |  |
| U-234                    | 1.13E-06                            |  |  |
| U-235                    | 8.79E-09                            |  |  |
| U-236                    | 6.03E-08                            |  |  |
| U-238                    | 3.88E-14                            |  |  |

#### **Waste Stream Description**

This waste stream consists of a cemented solid, with some free liquids. It can also have some small chunks in it.

#### **Management Comments**

The waste is stored in 55-gallon carbon steel drums with a rigid polyethylene liner and one or two bag liners.

#### RF-MT0803 Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RF-W010<br>None                     | Stream Name Solidified | d Sludge - Bldg 374 / TRM  Final Waste Form Solidified Inorganics | Waste Matrix Code S3190   | Activity Conc                 |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|-------------------------------------|------------------------|---|---------------------------|-------------------------------|--------------|-------------------------------------|
| Final Wa          | ste Form Descrip                    | tors                   |   | Waste Material Parameters |                               | Final Form R | adionuclides                        |
|                   | pory: Defense TF  olume Detail (m3) |                        | Pollution Control or Waste Treatment Process                      | Material Parameter        | Average<br>Density<br>(kg/m3) | Isotope      | Typical<br>Concentration<br>(Ci/m3) |

2.3

0.0

2.3

| Waste | Volume | Detail | (m3) |
|-------|--------|--------|------|
|       |        |        |      |

| As-Generated Volumes      |           |       |       |
|---------------------------|-----------|-------|-------|
| ContainerType             | Stored    | Proj. | Total |
| Drum / 55 gallon          | 2.3       | 0.0   | 2.3   |
| As-Generated <sup>1</sup> | Total 2.3 | 0.0   | 2.3   |
| Final Form Volumes        |           |       |       |
| ContainerType             | Stored    | Proj. | Total |
| 55 Gallon Drum            | 2.3       | 0.0   | 2.3   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 801.46                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.18                         |
| Solidified, Inorganic Matrix   | 828.31                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.52                        |
| Packaging Material, Plastic    | 36.17                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.24E+00                            |  |  |
| Np-237  | 4.76E-06                            |  |  |
| Pu-238  | 3.16E-02                            |  |  |
| Pu-239  | 7.43E-01                            |  |  |
| Pu-240  | 1.69E-01                            |  |  |
| Pu-241  | 2.43E+00                            |  |  |
| Pu-242  | 2.14E-05                            |  |  |
| Th-229  | 4.59E-14                            |  |  |
| Th-230  | 6.19E-11                            |  |  |
| Th-232  | 1.79E-17                            |  |  |
| U-233   | 1.23E-10                            |  |  |
| U-234   | 1.13E-06                            |  |  |
| U-235   | 8.79E-09                            |  |  |

6.03E-08

3.88E-14

U-236

U-238

#### **Waste Stream Description**

This waste stream is a solid cemented sludge. It could have small amounts of free liquids in the bottom of the container.

Final Form Total

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and two bag liners.

8.48E-16

4.72E-10

2.98E-05

4.19E-07

2.86E-06

8.88E-13

Th-232

U-233

U-234

U-235

U-236

U-238

0.00

0.00

0.00

138.57

41.05

0.00

0.00

#### Waste Stream ID: RF-MT0806

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID RF-W097 Stream Name Solidified Process Solids/                              | TRM         |              |           |                              |                               | Invent           | ory Date 9/30/2002                  |
|---|-------------|--------------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| ocal ID IDC 806 Handling CH Final Wa  | ste Form    | Solidified I | norganics | Waste Matrix Code S3119      | Activity Co                   | oncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |              |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3) | or Waste Ti | reatment F   | Process   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |              |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241           | 5.34E+00                            |
| ContainerType   | Stored      | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 1.89E-05                            |
| Can / 1-Liter   | 0.0         | 0.0          |           | Other Metal/Alloys           | 0.00                          | Pu-238           | 8.34E-01                            |
|   |             |              |           | Other Inorganic Materials    | 235.33                        | Pu-239           | 3.54E+01                            |
| As-Generated Total  | 0.0         | 0.0          | 0.0       | Cellulosics                  | 0.00                          | Pu-240           | 8.03E+00                            |
| Final Form Volumes  |             |              |           | Rubber                       | 0.00                          | Pu-241           | 4.53E+01                            |
| ContainerType   | Stored      | Proj.        | Total     | Plastics                     | 33.41                         | Pu-242           | 4.91E-04                            |
| 55 Gallon Drum  | 0.2         | 0.0          |           | Solidified, Inorganic Matrix | 0.00                          | Th-229           | 1.73E-13                            |
| oo Ganon Brain  | 0.2         | 0.0          | 0.2       | Cement (Solidified)          | 0.00                          | Th-230           | 1.63E-09                            |
| Final Form Total  | 0.2         | 0.0          | 0.2       | Vitrified                    | 0.00                          | Th-232           | 8 48F-16                            |

#### **Waste Stream Description**

This waste stream represents the solidified final form of all particulate and sludge type materials. Particulates and sludge type materials are immobilized with Portland cement. The cemented wastes are cast into 1-gallon molds and allowed to cure prior to packaging. This is the final waste form for Firebrick, Pulverized or Fines/TRM (RF-W036), Incinerator Ash/TRM (RF-W040), Particulate Sludge/TRM (RF-W068), and Sand, Slag, and Crucible/TRM (RF-W059). IDC 806 - All inorganic particulate and inorganic sludge waste must be immobilized by processing into a solid and identified as IDC 806.

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

#### **Management Comments**

N/A

# RF-MT0807 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W010 Stream Name Solidified Sludge - Bldg 374 / TRM Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Pollution Control or Waste Treatment Process

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |  |        |       |       |
|----------------------|--|--------|-------|-------|
| ContainerType        |  | Stored | Proj. | Total |
| Drum / 55 gallon     |  | 81.7   | 0.0   | 81.7  |
| Drum / 85 gallon     |  | 2.3    | 0.0   | 2.3   |
|                      |  | 2.1.0  |       |       |

| As-Generated Total | 84.0 | 0.0 | 84.0 |
|--------------------|------|-----|------|
|                    |      |     |      |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 81.9   | 0.0   | 81.9  |
| 85 Gallon Drum     | 2.3    | 0.0   | 2.3   |

**Final Form Total** 84.2 0.0 84.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 801.46                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.18                         |
| Solidified, Inorganic Matrix   | 828.31                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 137.28                        |
| Packaging Material, Plastic    | 35.92                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.73E-01                            |
| Np-237  | 6.25E-07                            |
| Pu-238  | 1.59E-02                            |
| Pu-239  | 3.73E-01                            |
| Pu-240  | 8.54E-02                            |
| Pu-241  | 1.23E+00                            |
| Pu-242  | 1.08E-05                            |
| Th-229  | 5.80E-15                            |
| Th-230  | 3.12E-11                            |
| Th-232  | 9.01E-18                            |
| U-233   | 1.57E-11                            |
| U-234   | 5.69E-07                            |
| U-235   | 2.42E-07                            |
| U-236   | 3.04E-08                            |
| U-238   | 1.96E-14                            |

#### **Waste Stream Description**

This waste stream is a solid cemented sludge. It could have small amounts of free liquids in the bottom of the container.

#### **Management Comments**

Waste is packaged in 55 gallon DOT 7A Type A Drums. The drums are lined with one rigid polyethylene liner and two bag liners.

# Waste Stream ID: RF-MT0816 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W013 Stream Name Solidified Organics/TRM Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3290 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 426.74                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 3.44E+00                            |  |  |  |  |
| Np-237                   | 1.19E-05                            |  |  |  |  |
| Pu-238                   | 4.54E-01                            |  |  |  |  |
| Pu-239                   | 1.06E+01                            |  |  |  |  |
| Pu-240                   | 2.43E+00                            |  |  |  |  |
| Pu-241                   | 3.49E+01                            |  |  |  |  |
| Pu-242                   | 3.08E-04                            |  |  |  |  |
| Th-229                   | 1.08E-13                            |  |  |  |  |
| Th-230                   | 8.88E-10                            |  |  |  |  |
| Th-232                   | 2.56E-16                            |  |  |  |  |
| U-233                    | 2.95E-10                            |  |  |  |  |
| U-234                    | 1.62E-05                            |  |  |  |  |
| U-235                    | 3.35E-04                            |  |  |  |  |
| U-236                    | 8.65E-07                            |  |  |  |  |
| U-238                    | 5.57E-13                            |  |  |  |  |

#### **Waste Stream Description**

Polymerized organics - small containers consists of small quantities of organic liquids solidified with polymer such as Nochar Petrobond.

#### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: RF-MT-0823

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W068 Stream Name Particulate Sludge/TRM                                |          |              |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|----------|--------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| <u> </u>  | ste Form | Solidified I | norganics | Waste Matrix Code S3900      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |              |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou Waste Volume Detail (m3) | irces    |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |              |           | Iron-Base Metal/Alloys       | 36.82                         | Am-241     | 3.52E+00                            |
| ContainerType   | Stored   | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237     | 3.05E-05                            |
| Drum / 55 gallon  | 0.2      | 0.0          |           | Other Metal/Alloys           | 12.60                         | Pu-238     | 4.13E-01                            |
| 2.d, 00 ga.io   |          |              |           | Other Inorganic Materials    | 21.10                         | Pu-239     | 9.69E+00                            |
| As-Generated Total  | 0.2      | 0.0          | 0.2       | Cellulosics                  | 0.00                          | Pu-240     | 2.22E+00                            |
| Final Form Volumes  |          |              |           | Rubber                       | 1.53                          | Pu-241     | 3.17E+01                            |
| ContainerType   | Stored   | Proj.        | Total     | Plastics                     | 30.65                         | Pu-242     | 2.80E-04                            |
| 55 Gallon Drum  | 0.2      | 0.0          |           | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.43E-13                            |
|   | I        |              |           | Cement (Solidified)          | 0.00                          | Th-230     | 3.36E-09                            |
| Final Form Total  | 0.2      | 0.0          | 0.2       | Vitrified                    | 0.00                          | Th-232     | 2.34E-16                            |
|   |          |              |           | Solidified, Organic Matrix   | 18.40                         | U-233      | 1.25E-09                            |
|   |          |              |           | Soils                        | 0.00                          | U-234      | 3.84E-05                            |
|   |          |              |           | Packaging Material, Steel    | 138.56                        | U-235      | 3.26E-05                            |
|   |          |              |           | Packaging Material, Plastic  | 32.46                         | U-236      | 7.89E-07                            |
|   |          |              |           | Packaging Material Lead      | 0.00                          | 11-238     | 3.78E_05                            |

#### **Waste Stream Description**

This waste consists of sludge type material. It is a semi-fluid material. Some of it has had cement added to it to try to solidify it.

### **Management Comments**

The waste is packaged in 55-gallon drums with multiple bag liners. These are typically smaller containers within the drums.

# RF-MT0827 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W013 Stream Name Solidified Organics/TRM Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3290 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 8.3    | 1.0   | 9.4   |
|                      | As-Generated Total | 8.3    | 1.0   | 9.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 8.3    | 1.0   | 9.4   |
|                    | Final Form Total | 8.3    | 1.0   | 9.4   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 426.74                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 3.44E+00                            |  |  |  |  |
| Np-237                   | 1.19E-05                            |  |  |  |  |
| Pu-238                   | 4.54E-01                            |  |  |  |  |
| Pu-239                   | 1.06E+01                            |  |  |  |  |
| Pu-240                   | 2.43E+00                            |  |  |  |  |
| Pu-241                   | 3.49E+01                            |  |  |  |  |
| Pu-242                   | 3.08E-04                            |  |  |  |  |
| Th-229                   | 1.08E-13                            |  |  |  |  |
| Th-230                   | 8.88E-10                            |  |  |  |  |
| Th-232                   | 2.56E-16                            |  |  |  |  |
| U-233                    | 2.95E-10                            |  |  |  |  |
| U-234                    | 1.62E-05                            |  |  |  |  |
| U-235                    | 3.35E-04                            |  |  |  |  |
| U-236                    | 8.65E-07                            |  |  |  |  |
| U-238                    | 5.57E-13                            |  |  |  |  |

#### **Waste Stream Description**

Polymerized organics - drum consists of 55-gallon drum quantities of organic liquids solidified with polymer such as Nochar Petrobond.

#### **Management Comments**

0.00

### Waste Stream ID: RF-MT0831

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| THO V   | IAOILL   | AOLLII    | *E * E | OKT WASTET KOTTEE            |                               |            |                                     |
|---|----------|-----------|--------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W012 Stream Name Combustibles/TRM  |          |           |        |                              |                               | Invent     | ory Date 9/30/2002                  |
|   | ste Form | Combustib | le     | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |           |        | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ırces    |           |        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |        | Iron-Base Metal/Alloys       | 3.12                          | Am-241     | 1.00E+00                            |
| ContainerType   | Stored   | Proj.     | Total  | Aluminum-Base Metal/Alloys   | 1.86                          | Np-237     | 8.94E-06                            |
| Box / Metal   | 3.2      | 0.0       |        | Other Metal/Alloys           | 7.69                          | Pu-238     | 2.18E-01                            |
| Drum / 55 gallon  | 46.6     |           | 46.6   | Other Inorganic Materials    | 5.47                          | Pu-239     | 5.06E+00                            |
| Standard Waste Box  | 11.4     |           |        | Cellulosics                  | 10.99                         | Pu-240     | 1.16E+00                            |
| otalisala Made 20%  |          |           |        | Rubber                       | 8.58                          | Pu-241     | 1.62E+01                            |
| As-Generated Total  | 61.2     | 0.0       | 61.2   | Plastics                     | 24.88                         | Pu-242     | 1.43E-04                            |
| Final Form Volumes  |          |           |        | Solidified, Inorganic Matrix | 11.90                         | Th-229     | 1.95E-13                            |
| ContainerType   | Stored   | Proj.     | Total  | Cement (Solidified)          | 0.00                          | Th-230     | 2.25E-08                            |
| 55 Gallon Drum  | 46.7     | 0.0       |        | Vitrified                    | 0.00                          | Th-232     | 1.22E-16                            |
| Standard Waste Box  | 13.2     | 0.0       |        | Solidified, Organic Matrix   | 3.57                          | U-233      | 3.74E-10                            |
| Ctandard VVacto Box   | 10.2     | 0.0       | 10.2   | Soils                        | 0.00                          | U-234      | 2.12E-04                            |
| Final Form Total  | 59.9     | 0.0       | 59.9   | Packaging Material, Steel    | 141.61                        | U-235      | 6.64E-06                            |
|   |          |           |        | Packaging Material, Plastic  | 24.51                         | U-236      | 4.12E-07                            |
|   |          |           |        | Packaging Material, Lead     | 0.00                          | U-238      | 1.50E-06                            |

#### **Waste Stream Description**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

Packaging Material, Steel Plug

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

1.46E-16

8.13E-10

1.81E-04

5.66E-06

4.92E-07

5.48E-06

### Waste Stream ID: RF-MT0832

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| IKU   | WASIE     | PASELII   | AE HAAEHA | ORT WASTE PROFILE            |                               |            |   |
|---|-----------|-----------|-----------|------------------------------|-------------------------------|------------|---|
| HQ ID RF-W012 Stream Name Combustibles/TRM Local ID None Handling CH Final Wa       | aste Form | Combustib | le        | Waste Matrix Code S5390      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |           |           |           | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ources    |           |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |           |           |           | Iron-Base Metal/Alloys       | 2.40                          | Am-241     | 2.26E+00                                |
| ContainerType   | Stored    | Proj.     | Total     | Aluminum-Base Metal/Alloys   | 2.14                          | Np-237     | 1.98E-05                                |
| Drum / 55 gallon  | 95.9      | •         |           | Other Metal/Alloys           | 4.75                          | Pu-238     | 2.45E-01                                |
| Drum / 85 gallon  | 0.6       |           |           | Other Inorganic Materials    | 78.92                         | Pu-239     | 6.06E+00                                |
| 2.d 00 ga.i.d   | 0.0       | 0.0       | 0.0       | Cellulosics                  | 12.85                         | Pu-240     | 1.38E+00                                |
| As-Generated Total  | 96.5      | 17.9      | 114.4     | Rubber                       | 71.68                         | Pu-241     | 1.78E+01                                |
| Final Form Volumes  |           |           |           | Plastics                     | 23.43                         | Pu-242     | 1.69E-04                                |
| ContainerType   | Stored    | Proj.     | Total     | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 4.18E-13                                |
| 55 Gallon Drum  | 96.1      |           |           | Cement (Solidified)          | 0.00                          | Th-230     | 1.90E-08                                |

#### **Waste Stream Description**

85 Gallon Drum

Standard Waste Box

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

0.6

28.4

143.0

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

253.04

141.08

25.13

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

**Final Form Total** 

0.6

0.0

96.7

0.0

28.4

46.3

### Waste Stream ID: RF-MT0833

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W012 Stream Name Combustibles/TRM  |          |           |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|----------|-----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
|   | ste Form | Combustib | le    | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |          |           |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | irces    |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |           |       | Iron-Base Metal/Alloys       | 2.75                          | Am-241     | 1.11E+00                            |
| ContainerType   | Stored   | Proj.     | Total | Aluminum-Base Metal/Alloys   | 2.28                          | Np-237     | 9.93E-06                            |
| 1/2 Wood Box  | 1.6      | •         | 1.6   | Other Metal/Alloys           | 6.90                          | Pu-238     | 1.17E-01                            |
| Drum / 55 gallon  | 45.3     | 33.9      | 79.2  | Other Inorganic Materials    | 7.20                          | Pu-239     | 2.82E+00                            |
| Standard Waste Box  | 1.9      |           | 1.9   | Cellulosics                  | 12.50                         | Pu-240     | 6.46E-01                            |
|   |          |           |       | Rubber                       | 5.01                          | Pu-241     | 8.62E+00                            |
| As-Generated Total  | 48.8     | 33.9      | 82.7  | Plastics                     | 111.52                        | Pu-242     | 8.41E-05                            |
| Final Form Volumes  |          |           |       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 2.11E-13                            |
| ContainerType   | Stored   | Proj.     | Total | Cement (Solidified)          | 0.00                          | Th-230     | 8.43E-09                            |
| 55 Gallon Drum  | 45.4     | 34.0      |       | Vitrified                    | 0.00                          | Th-232     | 6.81E-17                            |
| Standard Waste Box  | 3.8      |           | 3.8   | Solidified, Organic Matrix   | 3.65                          | U-233      | 4.09E-10                            |
| otalidala Made Box  | 0.0      | 0.0       | 0.0   | Soils                        | 0.00                          | U-234      | 8.02E-05                            |
| Final Form Total  | 49.2     | 34.0      | 83.2  | Packaging Material, Steel    | 139.14                        | U-235      | 2.52E-06                            |
|   |          |           |       | Packaging Material, Plastic  | 28.97                         | U-236      | 2.30E-07                            |
|   |          |           |       | Packaging Material, Lead     | 0.00                          | U-238      | 3.47E-06                            |

#### **Waste Stream Description**

This waste consists of rags, paper, cloth, coveralls, plastic, rubber, and wood. The waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills. The bulk of these wastes are packaged in 55-gallon drums with one rigid polyethylene liner and several bag liners. In addition, the waste may be packaged in DOT 7A Type A metal boxes which are lined with a fiberboard liner and a PVC liner or standard TRUPACT-II container. The containers are then assayed and transferred to interim status storage areas. These wastes have been shipped to the INEL for stroage in the past. RF-330, 356, 337, 821, 822, 853, 831, 832, 833. Predominantly combustible debris.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

This waste is stored in 55 gallon carbon steel drums with one rigid polyethylene liner and several bag liners and standard metal boxes.

# Waste Stream ID: RF-MT0855 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W032 Stream Name Ground glass/TRM Inventory Date 9/30/2002
Local ID IDC 444, 855 Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5122 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 8802 Can             | 0.0    | 0.0   | 0.0   |
| Drum / 55 gallon     | 1.5    | 0.0   | 1.5   |
| As-Generated Total   | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 10.50                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 59.19                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 12.89                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 7.52E-03                            |  |  |
| Np-237                   | 1.61E-08                            |  |  |
| Pu-238                   | 3.79E-03                            |  |  |
| Pu-239                   | 8.86E-02                            |  |  |
| Pu-240                   | 2.03E-02                            |  |  |
| Pu-241                   | 2.91E-01                            |  |  |
| Pu-242                   | 2.57E-06                            |  |  |
| Th-229                   | 8.47E-17                            |  |  |
| Th-230                   | 7.41E-12                            |  |  |
| Th-232                   | 2.14E-18                            |  |  |
| U-233                    | 2.92E-13                            |  |  |
| U-234                    | 1.35E-07                            |  |  |
| U-235                    | 1.05E-09                            |  |  |
| U-236                    | 7.22E-09                            |  |  |
| U-238                    | 4.65E-15                            |  |  |

#### **Waste Stream Description**

Matrix consits of crushed glass light bulbs.

#### **Management Comments**

The glass waste is packaged in 55- gallon drums that are lined with one fiberboard liner and two polyethylene bags or metal boxes. Drums are placed in TRUPACT II containers.

# Waste Stream ID: RF-MT0857 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W097 Stream Name Solidified Process Solids/TRM Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Waste Treatment

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 57.28                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 34.37                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.18                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 5.34E+00                            |  |  |
| Np-237                   | 1.89E-05                            |  |  |
| Pu-238                   | 8.34E-01                            |  |  |
| Pu-239                   | 3.54E+01                            |  |  |
| Pu-240                   | 8.03E+00                            |  |  |
| Pu-241                   | 4.53E+01                            |  |  |
| Pu-242                   | 4.91E-04                            |  |  |
| Th-229                   | 1.73E-13                            |  |  |
| Th-230                   | 1.63E-09                            |  |  |
| Th-232                   | 8.48E-16                            |  |  |
| U-233                    | 4.72E-10                            |  |  |
| U-234                    | 2.98E-05                            |  |  |
| U-235                    | 4.19E-07                            |  |  |
| U-236                    | 2.86E-06                            |  |  |
| U-238                    | 8.88E-13                            |  |  |

#### **Waste Stream Description**

Dried sludge from the vitrification of radioactive waste.

#### **Management Comments**

# Waste Stream ID: RF-MT0H61 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W076 Stream Name Process Residues/TRM Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Residue Repackaging/Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.2    | 0.0   | 0.2   |
| POC / 55 gallon      | 7.5    | 0.0   | 7.5   |
| As-Generated Total   | 7.7    | 0.0   | 7.7   |

| Final Form Volumes |                 |        |       |       |
|--------------------|-----------------|--------|-------|-------|
| ContainerType      |                 | Stored | Proj. | Total |
| 55 Gallon Drum     |                 | 0.2    | 0.0   | 0.2   |
| 55 Gallon POCs     |                 | 7.5    | 0.0   | 7.5   |
|                    | inal Form Total | 7.7    | 0.0   | 7.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 514.79                        |
| Packaging Material, Plastic    | 24.02                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.34E+00                            |
| Np-237  | 1.89E-05                            |
| Pu-238  | 8.34E-01                            |
| Pu-239  | 3.54E+01                            |
| Pu-240  | 8.03E+00                            |
| Pu-241  | 4.53E+01                            |
| Pu-242  | 4.91E-04                            |
| Th-229  | 1.73E-13                            |
| Th-230  | 1.63E-09                            |
| Th-232  | 8.48E-16                            |
| U-233   | 4.72E-10                            |
| U-234   | 2.98E-05                            |
| U-235   | 4.19E-07                            |
| U-236   | 2.86E-06                            |
| U-238   | 8.88E-13                            |

#### **Waste Stream Description**

This waste consists of plutonium oxide removed from ductwork. The material includes both dry particulates and moist sludges with graphite and varying concentrations of plutonium.

#### **Management Comments**

#### Waste Stream ID: **RF-MT2116**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID      | RF-W096         | Stream Name Compressed Com  | bustibles/TRM                      |   |                           |                    |        |                | y Date 9/30/2002         |
|------------|-----------------|-----------------------------|------------------------------------|---|---------------------------|--------------------|--------|----------------|--------------------------|
| Local ID   | 2116            | Handling CH Fi              | nal Waste Form Combustible         |   | Waste Matrix Code S5390   | Activity           | Concer | ntrations Deca | ayed to CY 2002          |
|            | e Form Descrip  |                             |                                    |   | Waste Material Parameters |                    |        | Final Form R   | adionuclides             |
| Categor    | Defense TR      | U Waste Source: Pollution C | control or Waste Treatment Process | ] |                           | Average<br>Density |        |                | Typical<br>Concentration |
| Waste Volu | ıme Detail (m3) |                             |                                    |   | Material Parameter        | (kg/m3)            |        | Isotope        | (Ci/m3)                  |
| As-Gene    | rated Volumes   |                             |                                    |   | Iron-Base Metal/Alloys    | 2.97               |        | Am-241         | 2.26E+00                 |

Total

2.1

| As-Generated Total | 2.1                | 0.0    | 2.1          |
|--------------------|--------------------|--------|--------------|
|                    |                    |        |              |
|                    | Stored             | Proj.  | Total        |
|                    | 2.1                | 0.0    | 2.1          |
|                    | As-Generated Total | Stored | Stored Proj. |

|                  | 0.00 | oj. | Iotai |
|------------------|------|-----|-------|
|                  | 2.1  | 0.0 | 2.1   |
| _                |      |     |       |
| Final Form Total | 21   | 0.0 | 21    |

Stored

2.1

Proj.

0.0

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.97                          |
| Aluminum-Base Metal/Alloys     | 0.78                          |
| Other Metal/Alloys             | 2.84                          |
| Other Inorganic Materials      | 7.27                          |
| Cellulosics                    | 12.83                         |
| Rubber                         | 43.41                         |
| Plastics                       | 136.75                        |
| Solidified, Inorganic Matrix   | 2.77                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 13.80                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.49                        |
| Packaging Material, Plastic    | 28.24                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form R | Final Form Radionuclides            |  |  |  |  |  |
|--------------|-------------------------------------|--|--|--|--|--|
| Isotope      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241       | 2.26E+00                            |  |  |  |  |  |
| Np-237       | 1.98E-05                            |  |  |  |  |  |
| Pu-238       | 2.45E-01                            |  |  |  |  |  |
| Pu-239       | 6.06E+00                            |  |  |  |  |  |
| Pu-240       | 1.38E+00                            |  |  |  |  |  |
| Pu-241       | 1.78E+01                            |  |  |  |  |  |
| Pu-242       | 1.69E-04                            |  |  |  |  |  |
| Th-229       | 4.18E-13                            |  |  |  |  |  |
| Th-230       | 1.90E-08                            |  |  |  |  |  |
| Th-232       | 1.46E-16                            |  |  |  |  |  |
| U-233        | 8.13E-10                            |  |  |  |  |  |
| U-234        | 1.81E-04                            |  |  |  |  |  |
| U-235        | 5.66E-06                            |  |  |  |  |  |
| U-236        | 4.92E-07                            |  |  |  |  |  |
| U-238        | 5.48E-06                            |  |  |  |  |  |

#### **Waste Stream Description**

ContainerType

Drum / 55 gallon

Cloth, paper, cellulosic, and plastic debris material generated from plutonium operations/activities with assigned EPA Hazardous Waste Numbers F001 and F002. Combustible waste consisting of any combination of dry combustibles (IDC 831), wet combustibles (IDC 832) and plastic wastes (IDC833) packed in a 35-gallon drum that was slightly compressed prior to being packed into a 55-gallon drum. This waste was previously referred to as "supercompacted" but in reality is compressed waste.

#### **Management Comments**

Required prior EPA approval. Drums of compressed debris were determined to be equivalent to the uncompressed portion of the debris streams that are currently approved by EPA for disposal from the Rocky Flats Environmental Technology Site (RFETS), as referenced in the March 9, 2005 letter from Bonnie C. Gitlin to Dr. Ines Triay.

9.45E-10

5.43E-17

3.29E-10

1.04E-05

2.53E-07

1.83E-07

9.27E-09

## Waste Stream ID: RF-MT3010

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU V  | VASIE     | ASELII    | NE INVENT   | DRT WASTE PROFILE            |                               |            |   |
|--|-----------|-----------|-------------|------------------------------|-------------------------------|------------|---|
| HQ ID         RF-W011         Stream Name         Metal/TRM           Local ID         N/A         Handling         CH         Final War | ste Form  | Heterogen | eous Debris | Waste Matrix Code S5420      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors   |           |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Decontamination a Waste Volume Detail (m3)   | and Decom | missionin | ng          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys       | 243.11                        | Am-241     | 4.26E-01                                |
| ContainerType  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 12.54                         | Np-237     | 7.07E-06                                |
| Drum / 55 gallon   | 1.0       | 12.1      | 13.1        | Other Metal/Alloys           | 12.58                         | Pu-238     | 9.49E-02                                |
| Standard Waste Box   | 9.5       | 9.5       | 19.0        | Other Inorganic Materials    | 15.80                         | Pu-239     | 2.25E+00                                |
|  | <u> </u>  |           |             | Cellulosics                  | 7.82                          | Pu-240     | 5.15E-01                                |
| As-Generated Total   | 10.5      | 21.6      | 32.1        | Rubber                       | 5.94                          | Pu-241     | 7.13E+00                                |
| Final Form Volumes   |           |           |             | Plastics                     | 18.62                         | Pu-242     | 6.27E-05                                |
| ContainerType  | Stored    | Proj.     | Total       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.78E-13                                |

13.1

18.9

32.0

1.0

9.4

10.5

Final Form Total

12.

9.4

21.5

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

146.85

16.52

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

55 Gallon Drum

Standard Waste Box

"This IDC is assigned to composite debris, rubble, or material composed of such things as gloveboxes, process equipment and other inorganic materials, such as concrete, glass, firebrick, ceramics, asbestos, etc. The materials contain up to 10 weight percent hydrogenous (organic) material such as cellulosics, Plexiglas, rubber, small quantities of nonhazardous liquid (e.g., Texaco 650 oil) absorbed or solidified using Oil Dri or Nochar polymer, or other organic materials associated with the waste items."

#### **Management Comments**

3.85E-10

1.78E-05

5.21E-07

1.25E-07

3.87E-07

#### Waste Stream ID: RF-MT3011

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU  | WASIE       | BASELII    | NE INVENT   | DRY WASTE PROFILE            |                               |                 |                                     |
|--|-------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID RF-W011 Stream Name Metal/TRM  |             |            |             |                              |                               | Invent          | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final W   | aste Form   | Heterogen  | eous Debris | Waste Matrix Code S5490      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |             |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination Waste Volume Detail (m3) | n and Decon | mmissionin | ng          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |            |             | Iron-Base Metal/Alloys       | 201.22                        | Am-241          | 3.82E-01                            |
| ContainerType  | Stored      | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 7.12                          | Np-237          | 8.11E-06                            |
| Drum / 55 gallon   | 2.7         |            |             | Other Metal/Alloys           | 69.29                         | Pu-238          | 6.55E-02                            |
| POC / 55 gallon  | 0.2         | 0.0        | 0.2         | Other Inorganic Materials    | 36.28                         | Pu-239          | 1.53E+00                            |
| Standard Waste Box   | 212.8       |            |             | Cellulosics                  | 4.40                          | Pu-240          | 3.51E-01                            |
|  |             | l          |             | Rubber                       | 4.22                          | Pu-241          | 5.04E+00                            |
| As-Generated Total   | 215.7       | 137.6      | 353.3       | Plastics                     | 29.66                         | Pu-242          | 4.44E-05                            |
| Final Form Volumes   |             |            |             | Solidified, Inorganic Matrix | 4.73                          | Th-229          | 2.11E-13                            |
| ContainerType  | Stored      | Proj.      | Total       | Cement (Solidified)          | 0.00                          | Th-230          | 1.80E-09                            |
| 55 Gallon Drum   | 2.7         |            |             | Vitrified                    | 0.00                          | Th-232          | 3.70E-17                            |

#### **Waste Stream Description**

55 Gallon POCs

Standard Waste Box

"This IDC is assigned to composite debris, rubble, or material composed of such things as gloveboxes, process equipment and other inorganic materials, such as concrete, glass, firebrick, ceramics, asbestos, etc. This material typically contains greater than 10 weight percent hydrogenous (organic) material such as cellulosics, plastic, Plexiglas, rubber, small quantities of nonhazardous liquid (e.g., Texaco 650 oil) absorbed or solidified using Oil Dri or Nochar polymer, or other organic materials associated with the waste items; however, there is no upper limit for the amount of hydrogenous material. "

0.2

347.8

351.5

0.2

211.7

214.6

Final Form Total

0.0

136.1

136.9

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

16.23

0.00

5.18

0.00

0.00

152.68

U-233

U-234

U-235

U-236

U-238

#### **Management Comments**

7.74E-10

9.92E-05

2.47E-06

3.21E-06

1.77E-08

### Waste Stream ID: RF-MT420P

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| TRU W  | VASTE       | BASELII      | NE INVENT | ORY WASTE PROFILE            |                               |         |   |
|--|-------------|--------------|-----------|------------------------------|-------------------------------|---------|---|
| HQ ID         RF-W040         Stream Name         Incinerator Ash/TRM           Local ID         N/A         Handling         CH         Final Was | ste Form    | Solidified I | norganics | Waste Matrix Code S3111      | Activity Co                   |         | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors   | ste i orini | Jonanica 1   | norganios | Waste Material Parameters    | Activity Co.                  |         | Radionuclides                           |
| Category: Defense TRU Waste Source: Residue Repackaç  Waste Volume Detail (m3)   | ging/Waste  | e Treatme    | nt        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |             |              |           | Iron-Base Metal/Alloys       | 11.32                         | Am-241  | 7.46E+00                                |
| ContainerType  | Stored      | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237  | 2.88E-05                                |
| Can / 6-Liter  | 0.0         |              |           | Other Metal/Alloys           | 8.49                          | Pu-238  | 1.04E+00                                |
| Drum / 30 gallon   | 0.2         | 0.0          | 0.2       | Other Inorganic Materials    | 11.20                         | Pu-239  | 3.94E+01                                |
| POC / 55 gallon  | 160.2       |              |           | Cellulosics                  | 167.07                        | Pu-240  | 9.02E+00                                |
|  |             |              |           | Rubber                       | 0.00                          | Pu-241  | 5.16E+01                                |
| As-Generated Total   | 160.4       | 0.0          | 160.4     | Plastics                     | 1.69                          | Pu-242  | 6.87E-04                                |
| Final Form Volumes   |             |              |           | Solidified, Inorganic Matrix | 0.00                          | Th-229  | 3.04E-13                                |
| ContainerType  | Stored      | Proj.        | Total     | Cement (Solidified)          | 0.00                          | Th-230  | 8.74E-09                                |
| 30 Gallon Drum   | 0.2         |              |           | Vitrified                    | 0.00                          | Th-232  | 9.52E-16                                |

#### **Waste Stream Description**

55 Gallon POCs

"Blended incinerator ash consists in all or part of the following IDCs: pulverized incinerator ash (IDC 420), ash heel (IDC 421), soot (IDC 422), and ash selected for MMEC (IDC 428). These IDCs are blended together to adjust plutonium content and container fill height. When low plutonium content feedstock for blending is unavailable, a surrogate material may be used."

160.7

160.9

160.7

160.9

**Final Form Total** 

0.0

0.0

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

0.00

0.00

524.67

23.88

0.00

0.00

U-233

U-234

U-235

U-236

U-238

#### **Management Comments**

8.83E-09

3.53E-16

1.05E-08

9.27E-05

2.78E-06

1.19E-06

4.60E-05

### Waste Stream ID: RF-MT532A

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                   | IKUV  | VASIE     | DASELI        | NE INVEN   | TORT WASTE PROFILE           |                               |                  |                                     |
|-------------------|---|-----------|---------------|------------|------------------------------|-------------------------------|------------------|-------------------------------------|
| HQ ID             | RF-W068 Stream Name Particulate Sludge/TRM                  |           | 0 1: 1:6: 1.1 |            |                              |                               |                  | ory Date 9/30/2002                  |
| Local ID          | N/A Handling CH Final Wa                                    | aste Form | Solidified    | inorganics | Waste Matrix Code S3119      | Activity Co                   | oncentrations De | ecayed to CY 2002                   |
| Final Wa          | ste Form Descriptors  |           |               |            | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Categ<br>Waste Vo | Defense TRU Waste Source: Waste Repackage Dlume Detail (m3) | ing       |               |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge             | nerated Volumes   |           |               |            | Iron-Base Metal/Alloys       | 19.44                         | Am-241           | 8.56E+00                            |
| Contai            | inerType  | Stored    | Proj.         | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 2.18E-04                            |
| 55 Gal            | Ion POCs  | 0.0       | 18.3          | 18.3       | Other Metal/Alloys           | 23.87                         | Pu-238           | 6.12E-01                            |
|                   |   |           |               | I          | Other Inorganic Materials    | 92.37                         | Pu-239           | 1.47E+01                            |
|                   | As-Generated Total  | 0.0       | 18.3          | 18.3       | Cellulosics                  | 12.89                         | Pu-240           | 3.35E+00                            |
| Final F           | Form Volumes  |           |               |            | Rubber                       | 0.00                          | Pu-241           | 4.68E+01                            |
| Contai            | inerType  | Stored    | Proj.         | Total      | Plastics                     | 15.87                         | Pu-242           | 4.88E-04                            |
|                   | lon POCs  | 0.0       | •             | 18.3       | Solidified, Inorganic Matrix | 80.40                         | Th-229           | 5.74E-12                            |

18.3

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

525.22

23.87

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

"Downblended oxides, less than 10 percent, contains uranium consists of plutonium and uranium oxides blended with surrogate materials to less than 10 percent plutonium/uranium concentration. Material is particulate ranging in size from finely divided powder to granular."

0.0

Final Form Total

18.3

#### **Management Comments**

## Waste Stream ID: RF-MT532B Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W068           | Stream Name | articula | ate Sludge/TRM                         |   |                           |                               |        |                | y Date 9/30/2002                    |
|----------|-------------------|-------------|----------|--|---|---------------------------|-------------------------------|--------|----------------|-------------------------------------|
| Local ID | N/A               | Handling    | CH       | Final Waste Form Solidified Inorganics | 6 | Waste Matrix Code S3119   | Activity                      | Concer | ntrations Deca | ayed to CY 2002                     |
|          | ste Form Descrip  |             |          | <u> </u>                               | _ | Waste Material Parameters |                               |        | Final Form R   | adionuclides                        |
|          | ory: Defense TF   | <u>'</u>    | ırce:    | Waste Repackaging                      |   | Material Parameter        | Average<br>Density<br>(kg/m3) |        | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| waste vo | olume Detail (m3) |             |          |  |   | material i arameter       | (kg/iii3)                     |        | Ізоторе        | (01/1113)                           |
| As-Ge    | nerated Volumes   | i           |          |  |   | Iron-Base Metal/Alloys    | 19.44                         |        | Am-241         | 8.56E+00                            |

| ContainerType      |                    | Stored | Proj. | Total |
|--------------------|--------------------|--------|-------|-------|
| 55 Gallon POCs     |                    | 0.0    | 82.2  | 82.2  |
|                    | As-Generated Total | 0.0    | 82.2  | 82.2  |
| Final Form Volumes |                    |        |       |       |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon POCs |                  | 0.0    | 82.2  | 82.2  |
|                | Final Form Total | 0.0    | 82.2  | 82.2  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### 

8.83E-09

3.53E-16

1.05E-08

9.27E-05

2.78E-06

1.19E-06

4.60E-05

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

"Downblended oxides, less than 10 percent, may contain moisture consists of plutonium oxides blended with surrogate materials to absorb free liquids and dilute plutonium concentration to less than 10 percent. Material is particulate ranging in size from finely divided powder to granular. "

#### **Management Comments**

8.83E-09

3.53E-16

1.05E-08

9.27E-05

2.78E-06

1.19E-06

4.60E-05

### Waste Stream ID: RF-MT532C

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| TKO V  | VASILL   | DAJLLI     | IAC IIAACI | TORT WASTE FROTIEE           |                               |            |   |
|--|----------|------------|------------|------------------------------|-------------------------------|------------|---|
| HQ ID RF-W068 Stream Name Particulate Sludge/TRM Local ID N/A Handling CH Final Wa | ste Form | Solidified | Inorganics | Waste Matrix Code S3119      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors   |          |            |            | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Waste Repackagi Waste Volume Detail (m3)       | ng       |            |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |          |            |            | Iron-Base Metal/Alloys       | 19.44                         | Am-241     | 8.56E+00                                |
| ContainerType  | Stored   | Proj.      | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 2.18E-04                                |
| 55 Gallon POCs   | 0.0      | •          | 164.7      | Other Metal/Alloys           | 23.87                         | Pu-238     | 6.12E-01                                |
|  |          |            |            | Other Inorganic Materials    | 92.37                         | Pu-239     | 1.47E+01                                |
| As-Generated Total   | 0.0      | 164.7      | 164.7      | Cellulosics                  | 12.89                         | Pu-240     | 3.35E+00                                |
| Final Form Volumes   |          |            |            | Rubber                       | 0.00                          | Pu-241     | 4.68E+01                                |
| ContainerType  | Stored   | Proj.      | Total      | Plastics                     | 15.87                         | Pu-242     | 4.88E-04                                |
| 55 Gallon POCs   | 0.0      |            |            | Solidified, Inorganic Matrix | 80.40                         | Th-229     | 5.74E-12                                |

164.7

0.0

**Final Form Total** 

164.7

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

525.22

23.87

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

### Waste Stream Description

"Downblended miscellaneous oxides, less than 10 percent consists of plutonium and uranium oxides blended with surrogate materials to dilute plutonium/uranium concentration to less than 10 percent. Material is particulate ranging in size from finely divided powder to granular."

#### **Management Comments**

# Waste Stream ID: RF-MT532D Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W068 Stream Name Particulate Sludge/TRM Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Waste Repackaging

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 gallon POCs       |                    | 0.0    | 1.0   | 1.0   |
|                      | As-Generated Total | 0.0    | 1.0   | 1.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon POCs     |                  | 0.0    | 1.0   | 1.0   |
|                    | Final Form Total | 0.0    | 1.0   | 1.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                   | 8.56E+00                            |  |  |  |  |  |
| Np-237                   | 2.18E-04                            |  |  |  |  |  |
| Pu-238                   | 6.12E-01                            |  |  |  |  |  |
| Pu-239                   | 1.47E+01                            |  |  |  |  |  |
| Pu-240                   | 3.35E+00                            |  |  |  |  |  |
| Pu-241                   | 4.68E+01                            |  |  |  |  |  |
| Pu-242                   | 4.88E-04                            |  |  |  |  |  |
| Th-229                   | 5.74E-12                            |  |  |  |  |  |
| Th-230                   | 8.83E-09                            |  |  |  |  |  |
| Th-232                   | 3.53E-16                            |  |  |  |  |  |
| U-233                    | 1.05E-08                            |  |  |  |  |  |
| U-234                    | 9.27E-05                            |  |  |  |  |  |
| U-235                    | 2.78E-06                            |  |  |  |  |  |
| U-236                    | 1.19E-06                            |  |  |  |  |  |
| U-238                    | 4.60E-05                            |  |  |  |  |  |

**Waste Stream Description** 

N/A

**Management Comments** 

# Waste Stream ID: RF-TT0069 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W123 Stream Name Oxides/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total

0.2

0.0

0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.59                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 47.73                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 1.91                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                   | 4.12E-01                            |  |  |  |  |  |
| Np-237                   | 1.79E-05                            |  |  |  |  |  |
| Pu-238                   | 7.64E-02                            |  |  |  |  |  |
| Pu-239                   | 1.79E+00                            |  |  |  |  |  |
| Pu-240                   | 4.09E-01                            |  |  |  |  |  |
| Pu-241                   | 5.88E+00                            |  |  |  |  |  |
| Pu-242                   | 5.18E-05                            |  |  |  |  |  |
| Th-229                   | 4.94E-13                            |  |  |  |  |  |
| Th-230                   | 3.82E-08                            |  |  |  |  |  |
| Th-232                   | 4.32E-17                            |  |  |  |  |  |
| U-233                    | 8.90E-10                            |  |  |  |  |  |
| U-234                    | 3.56E-04                            |  |  |  |  |  |
| U-235                    | 4.07E-05                            |  |  |  |  |  |
| U-236                    | 1.46E-07                            |  |  |  |  |  |
| U-238                    | 3.16E-03                            |  |  |  |  |  |

### **Waste Stream Description**

Depleted uranium oxide from decontamination and decommissioning of Buildings 776 and 777.

#### **Management Comments**

0.00

Packaging Material, Steel Plug

## Waste Stream ID: RF-TT0200

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID            | RF-W109                            | Stream Name Metal  | /TRU              |          |           |            |                              |                               | Invent     | ory Date 9/30/2002                  |
|------------------|------------------------------------|--------------------|-------------------|----------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID         | N/A                                | <b>Handling</b> CH | Final Wa          | ste Form | Incategor | ized Metal | Waste Matrix Code S5111      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Wa         | ste Form Descrip                   | otors              |                   |          |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Categ<br>Waste V | pory: Defense TF olume Detail (m3) |                    | Multiple Sources. |          |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge            | nerated Volumes                    |                    |                   |          |           |            | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 7.14E+00                            |
|                  | inerType                           |                    |                   | Stored   | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.61E-05                            |
|                  | / 55 gallon                        |                    |                   | 0.6      | 0.0       | 0.6        | Other Metal/Alloys           | 35.32                         | Pu-238     | 1.03E+00                            |
|                  |                                    |                    |                   | l        |           |            | Other Inorganic Materials    | 0.00                          | Pu-239     | 2.45E+01                            |
|                  |                                    | As                 | s-Generated Total | 0.6      | 0.0       | 0.6        | Cellulosics                  | 12.89                         | Pu-240     | 5.63E+00                            |
| Final I          | Form Volumes                       |                    |                   |          |           |            | Rubber                       | 0.00                          | Pu-241     | 7.55E+01                            |
| Conta            | inerType                           |                    |                   | Stored   | Proj.     | Total      | Plastics                     | 0.96                          | Pu-242     | 6.90E-04                            |
|                  | llon Drum                          |                    |                   | 0.6      | 0.0       | 0.6        | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 5.57E-13                            |
|                  |                                    |                    |                   |          |           | <u> </u>   | Cement (Solidified)          | 0.00                          | Th-230     | 2.20E-09                            |
|                  |                                    |                    | Final Form Total  | 0.6      | 0.0       | 0.6        | Vitrified                    | 0.00                          | Th-232     | 5.94E-16                            |
|                  |                                    |                    |                   |          |           |            | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.20E-09                            |
|                  |                                    |                    |                   |          |           |            | Soils                        | 0.00                          | U-234      | 3.84E-05                            |
|                  |                                    |                    |                   |          |           |            | Packaging Material, Steel    | 138.57                        | U-235      | 3.47E-07                            |
|                  |                                    |                    |                   |          |           |            | Packaging Material, Plastic  | 32.46                         | U-236      | 2.00E-06                            |
|                  |                                    |                    |                   |          |           |            | Packaging Material, Lead     | 0.00                          | U-238      | 5.02E-10                            |

### **Waste Stream Description**

"Radiological standards including enriched and depleted uranium, americium, and plutonium used for calibration of instrumentation."

### **Management Comments**

# Waste Stream ID: RF-TT0299 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-TT0299 Stream Name N/A Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3129 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.16                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 8.59                          |
| Solidified, Inorganic Matrix   | 10.50                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |
|--------------------------|-------------------------------------|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |
| Am-241                   | 1.06E+02                            |  |
| Np-237                   | 3.97E-04                            |  |
| Pu-238                   | 5.71E+00                            |  |
| Pu-239                   | 1.34E+02                            |  |
| Pu-240                   | 3.06E+01                            |  |
| Pu-241                   | 4.40E+02                            |  |
| Pu-242                   | 3.87E-03                            |  |
| Th-229                   | 3.77E-12                            |  |
| Th-230                   | 1.12E-08                            |  |
| Th-232                   | 3.23E-15                            |  |
| U-233                    | 1.01E-08                            |  |
| U-234                    | 2.04E-04                            |  |
| U-235                    | 1.58E-06                            |  |
| U-236                    | 1.09E-05                            |  |
| U-238                    | 1.22E-04                            |  |

### **Waste Stream Description**

N/A

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

# RF-TT0300 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W117 Stream Name Coarse Graphite/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Graphite Waste Matrix Code S5126 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 10 gallon     | 0.0    | 0.0   | 0.0   |
| Drum / 55 gallon     | 30.2   | 1.2   | 31.4  |
| POC / 55 gallon      | 10.0   | 0.0   | 10.0  |
| As-Generated Total   | 40.2   | 1 2   | 41 4  |

| Stored | Proj. | Total    |
|--------|-------|----------|
| 30.4   | 1.3   | 31.7     |
| 10.0   | 0.0   | 10.0     |
|        | 30.4  | 30.4 1.3 |

**Final Form Total** 40.4 1.3 41.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.75                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 292.83                        |
| Cellulosics                    | 12.49                         |
| Rubber                         | 0.00                          |
| Plastics                       | 22.13                         |
| Solidified, Inorganic Matrix   | 18.57                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 231.27                        |
| Packaging Material, Plastic    | 25.68                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.98E+00                            |
| Np-237  | 1.94E-05                            |
| Pu-238  | 7.88E-01                            |
| Pu-239  | 1.86E+01                            |
| Pu-240  | 4.28E+00                            |
| Pu-241  | 5.18E+01                            |
| Pu-242  | 4.56E-04                            |
| Th-229  | 3.73E-13                            |
| Th-230  | 2.25E-08                            |
| Th-232  | 4.51E-16                            |
| U-233   | 7.44E-10                            |
| U-234   | 2.22E-04                            |
| U-235   | 6.48E-06                            |
| U-236   | 1.52E-06                            |
| U-238   | 3.67E-06                            |

#### **Waste Stream Description**

This waste form includes graphite chunks and coarse graphite.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W117 Stream Name Coarse Graphite/TRU Inventory Date 9/30/2002
Local ID None Handling CH Final Waste Form Graphite Waste Matrix Code S5126 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

RF-TT0301

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 5.8    | 0.0   | 5.8   |
| •                    | As-Generated Total | 5.8    | 0.0   | 5.8   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 5.8    | 0.0   | 5.8   |
|                    |        | T 1   |       |

 Final Form Total
 5.8
 0.0
 5.8

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.75                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 292.83                        |
| Cellulosics                    | 12.49                         |
| Rubber                         | 0.00                          |
| Plastics                       | 22.13                         |
| Solidified, Inorganic Matrix   | 18.57                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 26.25                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| T       |               |  |
|---------|---------------|--|
|         | Typical       |  |
| _       | Concentration |  |
| Isotope | (Ci/m3)       |  |
| Am-241  | 2.98E+00      |  |
| Np-237  | 1.94E-05      |  |
| Pu-238  | 7.88E-01      |  |
| Pu-239  | 1.86E+01      |  |
| Pu-240  | 4.28E+00      |  |
| Pu-241  | 5.18E+01      |  |
| Pu-242  | 4.56E-04      |  |
| Th-229  | 3.73E-13      |  |
| Th-230  | 2.25E-08      |  |
| Th-232  | 4.51E-16      |  |
| U-233   | 7.44E-10      |  |
| U-234   | 2.22E-04      |  |
| U-235   | 6.48E-06      |  |
| U-236   | 1.52E-06      |  |
| U-238   | 3.67E-06      |  |

#### **Waste Stream Description**

This waste form includes graphite chunks and coarse graphite.

#### **Management Comments**

# Waste Stream ID: RF-TT0302 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Combustibles/TRU Inventory Date 9/30/2002 HQ ID RF-W101 СН Final Waste Form Combustible Waste Matrix Code S5313 Activity Concentrations Decayed to CY 2002 Local ID None Handling Final Form Radionuclides **Final Waste Form Descriptors Waste Material Parameters** Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 7.7    | 1.0   | 8.7   |
| As-Generated Total   | 7.7    | 1.0   | 8.7   |
|                      |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 7.7    | 1.0   | 8.8   |
|                    | Final Form Total | 7.7    | 1.0   | 8.8   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.28                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 193.70                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 25.78                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 9.46E-02                            |  |  |  |  |
| Np-237                   | 6.33E-07                            |  |  |  |  |
| Pu-238                   | 1.69E-02                            |  |  |  |  |
| Pu-239                   | 4.30E-01                            |  |  |  |  |
| Pu-240                   | 9.85E-02                            |  |  |  |  |
| Pu-241                   | 1.28E+00                            |  |  |  |  |
| Pu-242                   | 1.12E-05                            |  |  |  |  |
| Th-229                   | 1.21E-14                            |  |  |  |  |
| Th-230                   | 4.38E-09                            |  |  |  |  |
| Th-232                   | 1.04E-17                            |  |  |  |  |
| U-233                    | 2.42E-11                            |  |  |  |  |
| U-234                    | 4.09E-05                            |  |  |  |  |
| U-235                    | 1.30E-06                            |  |  |  |  |
| U-236                    | 3.51E-08                            |  |  |  |  |
| U-238                    | 1.15E-08                            |  |  |  |  |
|                          | -                                   |  |  |  |  |

#### **Waste Stream Description**

This waste consists of Benelex shielding and Plexiglass glovebox windows.

#### **Management Comments**

## Waste Stream ID: RF-TT0303

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W117          | Stream Nam | e Coarse | Graphite/TRU                |                   |                          |        |          |       | Inventory      | Date 9/3  | 30/2002       |
|----------|------------------|------------|----------|-----------------------------|-------------------|--------------------------|--------|----------|-------|----------------|-----------|---------------|
| Local ID | None             | Handlir    | g CH     | Final Waste Form            | Graphite          | <b>Waste Matrix Code</b> | S5126  | Activity | Conce | ntrations Deca | yed to C' | <b>1</b> 2002 |
|          |                  |            |          |                             |                   |                          |        | _        |       |                | -         |               |
| Final Wa | ste Form Descrip | otors      |          |                             |                   | Waste Material Para      | meters |          |       | Final Form Ra  | dionucli  | des           |
| Categ    | ory: Defense TF  | RU Waste   | Source:  | Facility/Equipment Operatio | n and Maintenance |                          |        | Average  |       |                | Турі      | cal           |

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.2    | 0.0   | 1.2   |
|                      | As-Generated Total | 1.2    | 0.0   | 1.2   |

Waste

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 447.75                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 12.89                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 4.55E+00                            |  |  |  |
| Np-237                   | 5.42E-05                            |  |  |  |
| Pu-238                   | 7.80E-01                            |  |  |  |
| Pu-239                   | 1.83E+01                            |  |  |  |
| Pu-240                   | 4.18E+00                            |  |  |  |
| Pu-241                   | 6.01E+01                            |  |  |  |
| Pu-242                   | 5.29E-04                            |  |  |  |
| Th-229                   | 1.27E-12                            |  |  |  |
| Th-230                   | 9.12E-08                            |  |  |  |
| Th-232                   | 4.41E-16                            |  |  |  |
| U-233                    | 2.40E-09                            |  |  |  |
| U-234                    | 8.59E-04                            |  |  |  |
| U-235                    | 2.70E-05                            |  |  |  |
| U-236                    | 1.49E-06                            |  |  |  |
| U-238                    | 2.21E-05                            |  |  |  |

### **Waste Stream Description**

This waste form includes graphite chunks and coarse graphite .

### **Management Comments**

## Waste Stream ID: RF-TT0310

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RF-TT0310         Stream Name N/A           Local ID         N/A         Handling         CH         Final Was | ste Form | norganic N | lon-Metal | Waste Matrix Code S5126        | Activity Co                   |            | ory Date 9/30/2003<br>ecayed to CY 2002 |
|--|----------|------------|-----------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |          |            |           | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |          |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |          |            |           | Iron-Base Metal/Alloys         | 7.51                          | Am-241     | 6.00E+00                                |
| ContainerType  | Stored   | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 3.86E-05                                |
| Drum / 55 gallon   | 0.4      | 0.0        | 0.4       | Other Metal/Alloys             | 0.00                          | Pu-238     | 1.47E+00                                |
| POC / 55 gallon  | 2.7      | 0.0        | 2.7       | Other Inorganic Materials      | 14.85                         | Pu-239     | 3.29E+01                                |
|  | l        |            |           | Cellulosics                    | 136.23                        | Pu-240     | 7.76E+00                                |
| As-Generated Total   | 3.1      | 0.0        | 3.1       | Rubber                         | 0.00                          | Pu-241     | 8.79E+01                                |
| Final Form Volumes   |          |            |           | Plastics                       | 3.03                          | Pu-242     | 8.34E-04                                |
| ContainerType  | Stored   | Proj.      | Total     | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 7.24E-13                                |
| 55 Gallon Drum   | 0.4      | 0.0        | 0.4       | Cement (Solidified)            | 0.00                          | Th-230     | 9.28E-09                                |
| 55 Gallon POCs   | 2.7      | 0.0        |           | Vitrified                      | 0.00                          | Th-232     | 8.19E-16                                |
|  |          | 1          |           | Solidified, Organic Matrix     | 0.00                          | U-233      | 1.46E-09                                |
| Final Form Total   | 3.1      | 0.0        | 3.1       | Soils                          | 0.00                          | U-234      | 1.12E-04                                |
|  |          |            |           | Packaging Material, Steel      | 405.55                        | U-235      | 2.30E-06                                |
|  |          |            |           | Packaging Material, Plastic    | 27.11                         | U-236      | 2.76E-06                                |
|  |          |            |           | Packaging Material, Lead       | 0.00                          | U-238      | 1.69E-08                                |
|  |          |            |           | Packaging Material, Steel Plug | 0.00                          |            | •                                       |

### **Waste Stream Description**

N/A

### **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

# Waste Stream ID: RF-TT0312 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W117 Stream Name Coarse Graphite/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Graphite Waste Matrix Code S5126 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |         |      |       |       |
|----------------------|---------|------|-------|-------|
| ContainerType        | Sto     | red  | Proj. | Total |
| Drum / 55 gallon     |         | 3.7  | 0.0   | 3.7   |
| POC / 55 gallon      |         | 54.1 | 0.0   | 54.1  |
|                      |         | O    | 0.0   | F7.0  |
| As-Generated         | l Total | 57.8 | 0.0   | 57.8  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.8    | 0.0   | 3.8   |
| 55 Gallon POCs     |                  | 54.2   | 0.0   | 54.2  |
|                    | Final Form Total | 57.9   | 0.0   | 57.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 15.99                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 36.55                         |
| Cellulosics                    | 164.93                        |
| Rubber                         | 0.00                          |
| Plastics                       | 26.75                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 436.60                        |
| Packaging Material, Plastic    | 25.63                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.23E+00                            |
| Np-237  | 3.52E-05                            |
| Pu-238  | 1.43E+00                            |
| Pu-239  | 3.88E+01                            |
| Pu-240  | 8.80E+00                            |
| Pu-241  | 9.99E+01                            |
| Pu-242  | 9.17E-04                            |
| Th-229  | 4.63E-13                            |
| Th-230  | 6.08E-09                            |
| Th-232  | 9.28E-16                            |
| U-233   | 1.06E-09                            |
| U-234   | 8.15E-05                            |
| U-235   | 1.44E-06                            |
| U-236   | 3.13E-06                            |
| U-238   | 2.18E-07                            |

#### **Waste Stream Description**

This waste form includes graphite chunks and coarse graphite.

#### **Management Comments**

2.44E-16

3.75E-11

1.54E-05

1.20E-07

8.23E-07

5.30E-13

## Waste Stream ID: RF-TT0317 Appendix J

Final Form Total

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W113 Stream Name Glass/TRU   |           |              |           |                              |                               |                  | ory Date 9/30/2002                  |
|---|-----------|--------------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final W  | aste Form | Solidified I | norganics | Waste Matrix Code S3119      | Activity C                    | oncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |              |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Residue Vitrification  Waste Volume Detail (m3) | ion Study |              |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |              |           | Iron-Base Metal/Alloys       | 57.28                         | Am-241           | 8.98E-01                            |
| ContainerType   | Stored    | Proj.        | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 2.00E-06                            |
| Drum / 55 gallon  | 0.2       | 0.0          | 0.2       | Other Metal/Alloys           | 0.00                          | Pu-238           | 4.31E-01                            |
|   |           |              |           | Other Inorganic Materials    | 34.37                         | Pu-239           | 1.01E+01                            |
| As-Generated Total  | 0.2       | 0.0          | 0.2       | Cellulosics                  | 0.00                          | Pu-240           | 2.31E+00                            |
| Final Form Volumes  |           |              |           | Rubber                       | 0.00                          | Pu-241           | 3.32E+01                            |
| ContainerType   | Stored    | Proj.        | Total     | Plastics                     | 17.18                         | Pu-242           | 2.93E-04                            |
| 55 Gallon Drum  | 0.2       | 0.0          |           | Solidified, Inorganic Matrix | 0.00                          | Th-229           | 1.12E-14                            |
|   | 0.2       | 0.0          | 0.2       | Cement (Solidified)          | 0.00                          | Th-230           | 8.44E-10                            |

0.2

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

138.43

23.87

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

0.0

0.2

#### **Waste Stream Description**

Monoliths created from the vitrification of ash residues and glass frit.

### **Management Comments**

# Waste Stream ID: RF-TT0320 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W111 Stream Name Heavy Metal (non-SS)/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| Stored<br>0.0 | Proj. | Total |
|---------------|-------|-------|
| 0.0           |       |       |
| 0.0           | 0.0   | 0.0   |
| 0.0           | 0.0   | 0.0   |
| 21.4          | 2.9   | 24.3  |
|               |       |       |

| As-Generated Total | 21.4 | 2.9 | 24.3 |
|--------------------|------|-----|------|
|                    |      |     |      |

Final Form Total

21.9

2.9

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 21.9   | 2.9   | 24.8  |
|                    |        |       |       |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 41.91                         |
| Aluminum-Base Metal/Alloys     | 4.77                          |
| Other Metal/Alloys             | 126.66                        |
| Other Inorganic Materials      | 38.31                         |
| Cellulosics                    | 29.91                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.94                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.47                        |
| Packaging Material, Plastic    | 27.94                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 7.14E+00                            |  |  |  |
| Np-237                   | 3.61E-05                            |  |  |  |
| Pu-238                   | 1.03E+00                            |  |  |  |
| Pu-239                   | 2.45E+01                            |  |  |  |
| Pu-240                   | 5.63E+00                            |  |  |  |
| Pu-241                   | 7.55E+01                            |  |  |  |
| Pu-242                   | 6.90E-04                            |  |  |  |
| Th-229                   | 5.57E-13                            |  |  |  |
| Th-230                   | 2.20E-09                            |  |  |  |
| Th-232                   | 5.94E-16                            |  |  |  |
| U-233                    | 1.20E-09                            |  |  |  |
| U-234                    | 3.84E-05                            |  |  |  |
| U-235                    | 3.47E-07                            |  |  |  |
| U-236                    | 2.00E-06                            |  |  |  |
| U-238                    | 5.02E-10                            |  |  |  |

#### **Waste Stream Description**

Typically, these scrap metals consist of crucibles, funnels, rods and fixturing from several processes and production operations. Tantalum, tungsten and platinum are examples of scrap metals at the RFP.

24.8

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Combustibles/TRU HQ ID RF-W101 Inventory Date 9/30/2002 CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors Waste Material Parameters** Final Form Radionuclides

RF-TT0330

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 13.1   | 1.9   | 15.0  |
|                      | As-Generated Total | 13.1   | 1.9   | 15.0  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 13.1   | 1.9   | 15.0  |
|                    | Final Form Total | 13.1   | 1.9   | 15.0  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.97                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 37.23                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.52                        |
| Packaging Material, Plastic    | 22.72                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes            |  |  |  |  |
|-------------------------------------|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| 4.36E+00                            |  |  |  |  |
| 2.38E-05                            |  |  |  |  |
| 5.83E-01                            |  |  |  |  |
| 2.53E+01                            |  |  |  |  |
| 6.22E+00                            |  |  |  |  |
| 3.85E+01                            |  |  |  |  |
| 4.28E-04                            |  |  |  |  |
| 3.87E-13                            |  |  |  |  |
| 1.14E-09                            |  |  |  |  |
| 6.56E-16                            |  |  |  |  |
| 8.22E-10                            |  |  |  |  |
| 2.08E-05                            |  |  |  |  |
| 2.99E-07                            |  |  |  |  |
| 2.21E-06                            |  |  |  |  |
| 7.74E-13                            |  |  |  |  |
|                                     |  |  |  |  |

#### **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

#### **Management Comments**

# Waste Stream ID: RF-TT-0331 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-TT-0331 Stream Name N/A Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: N/A

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 10 gallon     | 0.0    | 0.0   | 0.0   |
| Drum / 55 gallon     | 63.2   | 3.7   | 67.0  |
| As-Generated Total   | 63.3   | 3.7   | 67.0  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 63.6   | 3.8   | 67.3  |

**Final Form Total** 63.6 3.8 67.3

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 115.41                        |
| Aluminum-Base Metal/Alloys     | 119.34                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 36.78                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 91.22                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 3.66                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.54                        |
| Packaging Material, Plastic    | 31.45                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.23E+00                            |
| Np-237  | 2.87E-05                            |
| Pu-238  | 7.21E-01                            |
| Pu-239  | 2.20E+01                            |
| Pu-240  | 4.93E+00                            |
| Pu-241  | 4.44E+01                            |
| Pu-242  | 5.17E-04                            |
| Th-229  | 4.68E-13                            |
| Th-230  | 9.24E-08                            |
| Th-232  | 5.20E-16                            |
| U-233   | 9.92E-10                            |
| U-234   | 8.68E-04                            |
| U-235   | 2.74E-05                            |
| U-236   | 1.75E-06                            |
| U-238   | 5.59E-07                            |

#### **Waste Stream Description**

N/A

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

## Waste Stream ID: RF-TT-0334

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID  | ste Form | norganic N | Jon-Metal    | Waste Matrix Code   S5129      | Activity Co.                  |         | ory Date 9/30/2002                  |
|--|----------|------------|--------------|--------------------------------|-------------------------------|---------|-------------------------------------|
| Final Waste Form Descriptors                                     | ste Form | norganic i | NOTI-IVICIAI | Waste Material Parameters      | Activity Co.                  |         | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |            |              | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |            |              | Iron-Base Metal/Alloys         | 0.00                          | Am-241  | 2.12E+01                            |
| ContainerType  | Stored   | Proj.      | Total        | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237  | 8.01E-05                            |
| 8804 Can   | 0.0      | 0.0        |              | Other Metal/Alloys             | 0.00                          | Pu-238  | 8.88E+00                            |
| Drum / 55 gallon   | 2.3      | 1.0        |              | Other Inorganic Materials      | 0.00                          | Pu-239  | 2.08E+02                            |
|  |          |            |              | Cellulosics                    | 0.00                          | Pu-240  | 4.76E+01                            |
| As-Generated Total   | 2.3      | 1.0        | 3.3          | Rubber                         | 0.00                          | Pu-241  | 6.83E+02                            |
| Final Form Volumes   |          |            |              | Plastics                       | 2.36                          | Pu-242  | 6.02E-03                            |
| ContainerType  | Stored   | Proj.      | Total        | Solidified, Inorganic Matrix   | 0.00                          | Th-229  | 1.16E-12                            |
| 55 Gallon Drum   | 2.5      | 1.0        | 3.5          | Cement (Solidified)            | 0.00                          | Th-230  | 1.74E-08                            |
|  |          |            |              | Vitrified                      | 0.00                          | Th-232  | 5.02E-15                            |
| Final Form Total   | 2.5      | 1.0        | 3.5          | Solidified, Organic Matrix     | 0.00                          | U-233   | 2.52E-09                            |
|  |          |            |              | Soils                          | 0.00                          | U-234   | 3.17E-04                            |
|  |          |            |              | Packaging Material, Steel      | 138.57                        | U-235   | 2.46E-06                            |
|  |          |            |              | Packaging Material, Plastic    | 32.46                         | U-236   | 1.69E-05                            |
|  |          |            |              | Packaging Material, Lead       | 0.00                          | U-238   | 1.09E-11                            |
|  |          |            |              | Packaging Material, Steel Plug | 0.00                          |         |                                     |
| Waste Stream Description   |          |            |              |                                |                               |         |                                     |

### **Management Comments**

N/A

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W120 | Stream Name | Filters & | media/TRU               |                   |       |               | Inventory Date         | 9/30/2002      |
|----------|---------|-------------|-----------|-------------------------|-------------------|-------|---------------|------------------------|----------------|
| Local ID | None    | Handling    | CH        | Final Waste Form Filter | Waste Matrix Code | S5410 | Activity Cond | centrations Decayed to | <b>CY</b> 2002 |
|          |         |             |           |                         |                   |       |               |                        |                |

**Final Waste Form Descriptors** 

RF-TT0335

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |        |       |
|----------------------|--------|--------|-------|
| ContainerType        | Stored | Proj.  | Total |
| Drum / 55 gallon     | 50.    | 3 27.7 | 78.4  |
| Standard Waste Box   | 1.9    | 0.0    | 1.9   |
|                      |        |        |       |

| As-Generated Total | 52.7 | 27.7 | 80.3 |
|--------------------|------|------|------|
|                    |      |      |      |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 50.9   | 27.7  | 78.6  |
| Standard Waste Box | 1.9    | 0.0   | 1.9   |

**Final Form Total** 52.8 27.7 80.5

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 11.02                         |
| Aluminum-Base Metal/Alloys     | 9.08                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 5.39                          |
| Cellulosics                    | 12.63                         |
| Rubber                         | 8.24                          |
| Plastics                       | 17.31                         |
| Solidified, Inorganic Matrix   | 2.27                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.47                          |
| Packaging Material, Steel      | 138.81                        |
| Packaging Material, Plastic    | 27.69                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| 01111   |                                     |
|---------|-------------------------------------|
| Isotope | Typical<br>Concentration<br>(Ci/m3) |
| Am-241  | 1.63E+00                            |
| Np-237  | 1.87E-05                            |
| Pu-238  | 2.84E-01                            |
| Pu-239  | 7.47E+00                            |
| Pu-240  | 1.72E+00                            |
| Pu-241  | 1.94E+01                            |
| Pu-242  | 1.82E-04                            |
| Th-229  | 4.33E-13                            |
| Th-230  | 7.07E-08                            |
| Th-232  | 1.81E-16                            |
| U-233   | 8.18E-10                            |
| U-234   | 6.60E-04                            |
| U-235   | 2.03E-05                            |
| U-236   | 6.10E-07                            |
| U-238   | 1.86E-06                            |
|         | -                                   |

**Waste Stream Description** 

**Management Comments** 

Glovebox HEPA filters.

# Waste Stream ID: RF-TT0336 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| Stored | Proj.       | Total               |
|--------|-------------|---------------------|
| 0.0    | 0.0         | 0.0                 |
| 18.9   | 2.1         | 21.0                |
| 0.0    | 0.0         | 0.0                 |
|        | 0.0<br>18.9 | 0.0 0.0<br>18.9 2.1 |

**As-Generated Total** 19.0 2.1 21.1

| Stored | Dra:  |          |
|--------|-------|----------|
| Otorea | Proj. | Total    |
| 19.4   | 2.1   | 21.5     |
|        | 19.4  | 19.4 2.1 |

**Final Form Total** 19.4 2.1 21.5

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.59                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.72                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.55                        |
| Packaging Material, Plastic    | 29.67                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.22E+00                            |
| Np-237  | 2.62E-05                            |
| Pu-238  | 1.10E+00                            |
| Pu-239  | 3.09E+01                            |
| Pu-240  | 7.04E+00                            |
| Pu-241  | 6.65E+01                            |
| Pu-242  | 8.20E-04                            |
| Th-229  | 2.58E-13                            |
| Th-230  | 1.59E-08                            |
| Th-232  | 7.43E-16                            |
| U-233   | 6.77E-10                            |
| U-234   | 1.67E-04                            |
| U-235   | 4.47E-06                            |
| U-236   | 2.51E-06                            |
| U-238   | 3.63E-08                            |

#### **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

#### **Management Comments**

# RF-TT0337 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |          |       |       |
|----------------------|----------|-------|-------|
| ContainerType        | Stored   | Proj. | Total |
| Drum / 55 gallon     | 39.5     | 2.7   | 42.2  |
| Standard Waste Box   | 3.8      | 0.0   | 3.8   |
|                      | <br>10.0 |       |       |

| As-Generated Total | 43.3 | 2.7 | 46.0 |
|--------------------|------|-----|------|

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 39.6   | 2.7   | 42.3  |
| Standard Waste Box | 3.8    | 0.0   | 3.8   |

**Final Form Total** 43.4 2.7 46.1

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.85                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 10.50                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 120.69                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 139.71                        |
| Packaging Material, Plastic    | 29.83                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |
|-------------------------------------|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| 4.34E+00                            |  |  |  |
| 1.61E-05                            |  |  |  |
| 6.18E-01                            |  |  |  |
| 1.93E+01                            |  |  |  |
| 4.34E+00                            |  |  |  |
| 3.32E+01                            |  |  |  |
| 4.13E-04                            |  |  |  |
| 1.61E-13                            |  |  |  |
| 3.10E-08                            |  |  |  |
| 4.58E-16                            |  |  |  |
| 4.20E-10                            |  |  |  |
| 2.98E-04                            |  |  |  |
| 9.11E-06                            |  |  |  |
| 1.55E-06                            |  |  |  |
| 7.86E-08                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

#### **Management Comments**

5.73E-16

1.33E-09

7.94E-05

3.71E-06

1.94E-06

2.13E-07

0.00

0.00

0.00

138.55

31.05

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

## Waste Stream ID: RF-TT0338

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          | TRU V  | ASTE E      | BASELIN  | NE INVENT | ORY WASTE PROFILE            |                               |                  |                                     |
|----------|--|-------------|----------|-----------|------------------------------|-------------------------------|------------------|-------------------------------------|
| HQ ID    | RF-W120 Stream Name Filters & media/TRU                                |             |          |           |                              |                               | Invent           | ory Date 9/30/2002                  |
| Local ID | None Handling CH Final Wa  | ste Form F  | ilter    |           | Waste Matrix Code S5410      | Activity Co                   | oncentrations De | ecayed to CY 2002                   |
| Final Wa | ste Form Descriptors   |             |          |           | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Categ    | Defense TRU Waste  Source: Facility/Equipment Waste  Defense TRU Waste | t Operation | and Main | tenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|          |  |             |          |           | Iron-Base Metal/Alloys       | 35.72                         | Am-241           | 5.82E+00                            |
|          | nerated Volumes  |             | -        |           | Aluminum-Base Metal/Alloys   | 13.67                         | Np-237           | 3.64E-05                            |
|          | inerType   | Stored      | Proj.    | Total     | Other Metal/Alloys           | 0.48                          | Pu-238           | 7.17E-01                            |
| 8802 C   | Can  | 0.0         | 0.0      | 0.0       | Other Inorganic Materials    | 16.43                         | Pu-239           | 2.41E+01                            |
| Drum /   | 55 gallon  | 117.1       | 16.8     | 134.0     | Cellulosics                  | 12.89                         | Pu-240           | 5.43E+00                            |
|          | As-Generated Total   | 117.1       | 16.8     | 134.0     | Rubber                       | 9.07                          | Pu-241           | 4.75E+01                            |
|          | 7.0 00.0.4.04 70.4.0   |             |          |           | Plastics                     | 12.27                         | Pu-242           | 5.09E-04                            |
|          | Form Volumes   | <u> </u>    |          |           | Solidified, Inorganic Matrix | 0.48                          | Th-229           | 6.50E-13                            |
| Contai   | inerType   | Stored      | Proj.    | Total     | Cement (Solidified)          | 0.00                          | Th-230           | 7.20E-09                            |

134.5

134.5

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

117.6

117.6

**Final Form Total** 

16.9

16.9

#### **Waste Stream Description**

55 Gallon Drum

This material consists of pieces ranging in size from 20" x 20" x 4" to 2" x 2" square pieces. These pieces are composed of glass fibers with a small percentage of asbestos. An organic binder, elastomeric adhesive, or polyurethane sealant was used during construction. The pieces also contain corrugated aluminum foil. The newer media consist of glass and aromatic polyamide fibers (Nomex) and luminum alloy metal coated wiht a thermoset vinyl or expoxy. Various sealants could be present. The material is not homogenous because of the different materials used and the different manufacturers of the filters. IDC 338 could also contain R-4 filters pads from the dicesium hexachloraplutonate (DCHP) process. The pads are about 12-inch diameter cloth filters.

#### **Management Comments**

#### Appendix J Waste Stream ID: RF-TT0340 TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Particulate Sludge/TRU HQ ID RF-W104 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Local ID Handling **Waste Matrix Code** Activity Concentrations Decayed to CY 2002 **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** 

Defense TRU Waste Source: Recovery/Waste Repackaging/Decontamination Category: and Decommissioni

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.4    | 0.0   | 0.4   |
| POC / 55 gallon      | 6.9    | 0.0   | 6.9   |
| As-Generated Total   | 7.3    | 0.0   | 7.3   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.     | 4 0.0 | 0.4   |
| 55 Gallon POCs     | 6.     | 9 0.0 | 6.9   |
|                    |        |       |       |

Final Form Total 7.3 0.0

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.16                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 8.59                          |
| Solidified, Inorganic Matrix   | 10.50                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 503.12                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Tracinal |                       |  |
|----------|-----------------------|--|
|          | Typical               |  |
| Isotope  | Concentration (Ci/m3) |  |
| isotope  | (6//11/3)             |  |
| Am-241   | 5.73E-01              |  |
| Np-237   | 1.23E-06              |  |
| Pu-238   | 2.88E-01              |  |
| Pu-239   | 6.75E+00              |  |
| Pu-240   | 1.54E+00              |  |
| Pu-241   | 2.22E+01              |  |
| Pu-242   | 1.96E-04              |  |
| Th-229   | 6.45E-15              |  |
| Th-230   | 5.64E-10              |  |
| Th-232   | 1.63E-16              |  |
| U-233    | 2.23E-11              |  |
| U-234    | 1.03E-05              |  |
| U-235    | 7.99E-08              |  |
| U-236    | 5.50E-07              |  |
| U-238    | 3.54E-13              |  |

#### **Waste Stream Description**

This waste form consists of sludge from washing leaded gloves and metal in Size Reduction Process.

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX or RF-MTXXXX), but is being re-characterized as non-mixed waste.

## Waste Stream ID: RF-TT0342

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Q ID RF-TT0342 Stream Name N/A ocal ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Cond |        |                           |       |                                |                               |  | Inventory Date 9/30/200<br>centrations Decayed to CY 200 |  |
|--|--------|---------------------------|-------|--------------------------------|-------------------------------|--|--|--|
| Final Waste Form Descriptors   |        | Waste Material Parameters |       | Final Form Radionuclides       |                               |  |  |  |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |        |                           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope                                      | Typical<br>Concentration<br>(Ci/m3)                      |  |
| As-Generated Volumes   |        |                           |       | Iron-Base Metal/Alloys         | 7.47                          | Am-241                                       | 1.94E+00   |  |
| ContainerType  | Stored | Proj.                     | Total | Aluminum-Base Metal/Alloys     | 12.86                         | Np-237                                       | 2.68E-05   |  |
| Drum / 55 gallon   | 17.7   | 2.1                       |       | Other Metal/Alloys             | 4.30                          | Pu-238                                       | 4.73E-01   |  |
| ,  |        |                           |       | Other Inorganic Materials      | 7.58                          | Pu-239                                       | 1.31E+01   |  |
| As-Generated Total   | 17.7   | 2.1                       | 19.8  | Cellulosics                    | 12.62                         | Pu-240                                       | 2.94E+00   |  |
| Final Form Volumes   |        |                           |       | Rubber                         | 9.61                          | Pu-241                                       | 2.94E+01   |  |
| ContainerType  | Stored | Proj.                     | Total | Plastics                       | 24.64                         | Pu-242                                       | 2.75E-04   |  |
| 55 Gallon Drum   | 17.7   | 2.1                       |       | Solidified, Inorganic Matrix   | 1.67                          | Th-229                                       | 6.52E-13   |  |
| 33 34.1011 2.14.111  |        |                           |       | Cement (Solidified)            | 0.00                          | Th-230                                       | 1.61E-08   |  |
| Final Form Total   | 17.7   | 2.1                       | 19.8  | Vitrified                      | 0.00                          | Th-232                                       | 3.11E-16   |  |
|  |        |                           |       | Solidified, Organic Matrix     | 8.59                          | U-233  | 1.21E-09   |  |
|  |        |                           |       | Soils                          | 0.00                          | U-234  | 1.57E-04   |  |
|  |        |                           |       | Packaging Material, Steel      | 138.46                        | U-235  | 4.68E-06   |  |
|  |        |                           |       | Packaging Material, Plastic    | 26.15                         | U-236  | 1.05E-06   |  |
|  |        |                           |       | Packaging Material, Lead       | 0.00                          | U-238  | 2.77E-06   |  |
|  |        |                           |       | Packaging Material, Steel Plug | 0.00                          | <u>-                                    </u> |  |  |
| Waste Stream Description   |        |                           |       |                                |                               |  |  |  |

### **Management Comments**

N/A

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

# Waste Stream ID: RF-TT0360 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Mg Oxide Crucibles/TRU HQ ID RF-W114 Inventory Date 9/30/2002 N/A CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5123 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: Pyrochemistry Research. Category: Defense TRU Waste

0.6

0.0

0.6

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.6    | 0.0   | 0.6   |
| As-Generated Total   | 0.6    | 0.0   | 0.6   |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.6    | 0.0   | 0.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 6.70                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 90.70                         |
| Other Inorganic Materials      | 113.57                        |
| Cellulosics                    | 102.83                        |
| Rubber                         | 0.00                          |
| Plastics                       | 36.16                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 25.44                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.84E+00                            |
| Np-237  | 7.50E-05                            |
| Pu-238  | 8.52E-01                            |
| Pu-239  | 2.08E+01                            |
| Pu-240  | 4.82E+00                            |
| Pu-241  | 6.16E+01                            |
| Pu-242  | 5.71E-04                            |
| Th-229  | 1.78E-12                            |
| Th-230  | 2.76E-09                            |
| Th-232  | 5.09E-16                            |
| U-233   | 3.34E-09                            |
| U-234   | 4.06E-05                            |
| U-235   | 5.73E-07                            |
| U-236   | 1.72E-06                            |
| U-238   | 2.89E-09                            |

### **Waste Stream Description**

Aluminum oxide crucibles and irregularly shaped crucible pieces from pyrochemistry research. May include pyrochemical salts.

Final Form Total

#### **Management Comments**

## Waste Stream ID: RF-TT0368

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-TT0368 Stream Name Mg Oxide Crucibles/TRU               |          |   |       |                              |                                    | Invent     | ory Date 9/30/2002                  |
|--|----------|---|-------|------------------------------|------------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa                                | ste Form | te Form Inorganic Non-Metal Waste Matrix Code S5123 |       |                              | Activity Concentrations Decayed to |            |                                     |
| Final Waste Form Descriptors                                     |          |   |       | Waste Material Parameters    |                                    | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |          |   |       | Material Parameter           | Average<br>Density<br>(kg/m3)      | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |   |       | Iron-Base Metal/Alloys       | 6.70                               | Am-241     | 5.84E+00                            |
| ContainerType  | Stored   | Proj.   | Total | Aluminum-Base Metal/Alloys   | 0.00                               | Np-237     | 7.50E-05                            |
| 8804 Can   | 0.0      |   |       | Other Metal/Alloys           | 90.70                              | Pu-238     | 8.52E-01                            |
| Can / 6-Liter  | 0.0      |   |       | Other Inorganic Materials    | 113.57                             | Pu-239     | 2.08E+01                            |
| Drum / 55 gallon   | 3.5      | 0.0   | 3.5   | Cellulosics                  | 102.83                             | Pu-240     | 4.82E+00                            |
| POC / 55 gallon  | 8.1      | 0.0   |       | Rubber                       | 0.00                               | Pu-241     | 6.16E+01                            |
|  |          |   |       | Plastics                     | 36.16                              | Pu-242     | 5.71E-04                            |
| As-Generated Total   | 11.7     | 0.0   | 11.7  | Solidified, Inorganic Matrix | 0.00                               | Th-229     | 1.78E-12                            |
| Final Form Volumes   |          |   |       | Cement (Solidified)          | 0.00                               | Th-230     | 2.76E-09                            |
| ContainerType  | Stored   | Proj.   | Total | Vitrified                    | 0.00                               | Th-232     | 5.09E-16                            |
| 55 Gallon Drum   | 4.4      | 0.0   |       | Solidified, Organic Matrix   | 0.00                               | U-233      | 3.34E-09                            |
| 55 Gallon POCs   | 8.1      | 0.0   |       | Soils                        | 0.00                               | U-234      | 4.06E-05                            |
|  |          |   |       | Packaging Material, Steel    | 251.04                             | U-235      | 5.73E-07                            |
| Final Form Total   | 12.5     | 0.0   | 12.5  | Packaging Material, Plastic  | 25.44                              | U-236      | 1.72E-06                            |
|  |          |   |       | Packaging Material, Lead     | 0.00                               | U-238      | 2.89E-09                            |

### **Waste Stream Description**

Magnesium oxide crucibles and crucible pieces from pyrochemistry operations. Crucibles may be crushed to pass through a ¼ inch sieve. Pyrochemical salts may exist in varying amounts. This waste stream does not include LECO crucibles or crucible inserts.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

0.00

Packaging Material, Steel Plug

### Waste Stream ID: RF-TT0370

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-TT0370 Stream Name N/A                                  |        |            |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|--------|------------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste                             | e Form | norganic N | Ion-Metal | Waste Matrix Code S5123      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                     |        |            |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |        |            |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |            |           | Iron-Base Metal/Alloys       | 19.78                         | Am-241     | 8.19E+00                            |
|  | Stored | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.00E-04                            |
| Drum / 55 gallon   | 2.7    | 0.0        | 2.7       | Other Metal/Alloys           | 51.08                         | Pu-238     | 1.35E+00                            |
| POC / 55 gallon  | 14.4   | 0.0        | 14.4      | Other Inorganic Materials    | 58.52                         | Pu-239     | 3.40E+01                            |
|  |        |            |           | Cellulosics                  | 153.05                        | Pu-240     | 7.78E+00                            |
| As-Generated Total   | 17.1   | 0.0        | 17.1      | Rubber                       | 0.00                          | Pu-241     | 9.60E+01                            |
| Final Form Volumes   |        |            | 1         | Plastics                     | 7.50                          | Pu-242     | 8.68E-04                            |
|  | Stored | Proj.      | Total     | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 8.17E-12                            |
| 55 Gallon Drum   | 2.7    | 0.0        | 2.7       | Cement (Solidified)          | 0.00                          | Th-230     | 5.22E-08                            |
| 55 Gallon POCs   | 14.4   | 0.0        |           | Vitrified                    | 0.00                          | Th-232     | 8.21E-16                            |
|  | l l    |            |           | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.48E-08                            |
| Final Form Total   | 17.1   | 0.0        | 17.1      | Soils                        | 0.00                          | U-234      | 5.07E-04                            |
|  |        |            |           | Packaging Material, Steel    | 360.42                        | U-235      | 1.53E-05                            |
|  |        |            |           | Packaging Material, Plastic  | 27.39                         | U-236      | 2.77E-06                            |
|  |        |            |           | Packaging Material, Lead     | 0.00                          | U-238      | 1.32E-07                            |

#### **Waste Stream Description**

"The crucibles are 1 inch by 1 inch to 4 inches by ¾ inch and have a composition of an aluminum silicate-based ceramic with about one-half percent chromium. The used crucibles contain fused plutonium metal or oxide, stainless steel, and an accelerator (copper, iron, tungsten, or tin)."

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

# Waste Stream ID: RF-TT0371 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W114 Stream Name Mg Oxide Crucibles/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5123 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.96                          |
| Aluminum-Base Metal/Alloys     | 1.91                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 236.28                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 50.76                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.48                        |
| Packaging Material, Plastic    | 20.53                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucides |                                     |  |  |  |  |  |
|-------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                 | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                  | 1.45E+01                            |  |  |  |  |  |
| Np-237                  | 1.56E-04                            |  |  |  |  |  |
| Pu-238                  | 2.23E+00                            |  |  |  |  |  |
| Pu-239                  | 5.22E+01                            |  |  |  |  |  |
| Pu-240                  | 1.19E+01                            |  |  |  |  |  |
| Pu-241                  | 1.72E+02                            |  |  |  |  |  |
| Pu-242                  | 1.51E-03                            |  |  |  |  |  |
| Th-229                  | 3.55E-12                            |  |  |  |  |  |
| Th-230                  | 1.12E-08                            |  |  |  |  |  |
| Th-232                  | 1.26E-15                            |  |  |  |  |  |
| U-233                   | 6.73E-09                            |  |  |  |  |  |
| U-234                   | 1.43E-04                            |  |  |  |  |  |
| U-235                   | 2.66E-06                            |  |  |  |  |  |
| U-236                   | 4.25E-06                            |  |  |  |  |  |
| U-238                   | 1.81E-08                            |  |  |  |  |  |

#### **Waste Stream Description**

Firebrick consists of brick and chunks of high-density alumina ceramic material used to line the firebox of the incinerator.

#### **Management Comments**

1.82E-08

1.23E-16

1.26E-10

1.72E-04

5.35E-06

4.16E-07

4.68E-08

#### Appendix J Waste Stream ID: **RF-TT0372**

Final Form Total

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W114 Stream Name Mg Oxide Crucibles/TRU Local ID N/A Handling CH Final Wa |        | Inventory Date 9/30/2002<br>entrations Decayed to CY 2002 |          |                              |                               |            |                                     |
|--|--------|---|----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors   |        |   |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Product Waste Volume Detail (m3)     | ion    |   |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |        |   |          | Iron-Base Metal/Alloys       | 4.77                          | Am-241     | 7.35E-01                            |
| ContainerType  | Stored | Proj.   | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.65E-06                            |
| Drum / 55 gallon   | 0.4    | •   |          | Other Metal/Alloys           | 0.00                          | Pu-238     | 2.20E-01                            |
|  |        | 0.0   | <u> </u> | Other Inorganic Materials    | 115.80                        | Pu-239     | 5.11E+00                            |
| As-Generated Total   | 0.4    | 0.0   | 0.4      | Cellulosics                  | 12.89                         | Pu-240     | 1.17E+00                            |
| Final Form Volumes   |        |   |          | Rubber                       | 0.00                          | Pu-241     | 1.49E+01                            |
| ContainerType  | Stored | Proj.   | Total    | Plastics                     | 17.50                         | Pu-242     | 1.33E-04                            |
| 55 Gallon Drum   | 0.4    | •   |          | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.02E-14                            |

0.4

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

138.48

29.60

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

"Primarily iron metal or aluminum oxide shot or beads, but could include glass or ceramic beads, or walnut shells used for etching numbers in parts."

0.4

0.0

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W107           | Stream Name Soil 8 | & Cleanup Debris/TRU                |                             |                    |                | y Date 9/30/2002         |
|----------|-------------------|--------------------|-------------------------------------|-----------------------------|--------------------|----------------|--------------------------|
| Local ID | IDC 374           | Handling C⊢        | Final Waste Form Heterogeneous Debr | ris Waste Matrix Code S5420 | Activity Conc      | entrations Dec | ayed to CY 2002          |
|          | ste Form Descrip  |                    |                                     | Waste Material Parameters   |                    | Final Form R   | adionuclides             |
| Categ    | ory: Defense TF   | RU Waste Source:   | Other/Multiple Sources              |                             | Average<br>Density |                | Typical<br>Concentration |
| Waste V  | olume Detail (m3) | 1                  |                                     | Material Parameter          | (kg/m3)            | Isotope        | (Ci/m3)                  |

| Waste | Volume | Detail | (m3) |
|-------|--------|--------|------|
|-------|--------|--------|------|

Waste Stream ID:

**RF-TT0374** 

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 9.2    | 1.0   | 10.2  |
|                      | As-Generated Total | 9.2    | 1.0   | 10.2  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 9.2    | 1.0   | 10.2  |
|                      | Final Form Total   | 9.2    | 1.0   | 10.2  |

| Waste Material Parameters      |                               |  |
|--------------------------------|-------------------------------|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |
| Iron-Base Metal/Alloys         | 18.66                         |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |
| Other Metal/Alloys             | 0.00                          |  |
| Other Inorganic Materials      | 447.28                        |  |
| Cellulosics                    | 12.89                         |  |
| Rubber                         | 5.44                          |  |
| Plastics                       | 18.14                         |  |
| Solidified, Inorganic Matrix   | 840.22                        |  |
| Cement (Solidified)            | 0.00                          |  |
| Vitrified                      | 0.00                          |  |
| Solidified, Organic Matrix     | 608.13                        |  |
| Soils                          | 239.96                        |  |
| Packaging Material, Steel      | 138.52                        |  |
| Packaging Material, Plastic    | 31.17                         |  |
| Packaging Material, Lead       | 0.00                          |  |
| Packaging Material, Steel Plug | 0.00                          |  |
| <u> </u>                       |                               |  |

| Final Form Radionuclides |                                     |  |
|--------------------------|-------------------------------------|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |
| Am-241                   | 9.21E-01                            |  |
| Np-237                   | 1.08E-05                            |  |
| Pu-238                   | 1.89E-01                            |  |
| Pu-239                   | 4.42E+00                            |  |
| Pu-240                   | 1.01E+00                            |  |
| Pu-241                   | 1.45E+01                            |  |
| Pu-242                   | 1.28E-04                            |  |
| Th-229                   | 2.56E-13                            |  |
| Th-230                   | 9.42E-10                            |  |
| Th-232                   | 1.07E-16                            |  |
| U-233                    | 4.80E-10                            |  |
| U-234                    | 1.21E-05                            |  |
| U-235                    | 9.98E-07                            |  |
| U-236                    | 3.60E-07                            |  |
| U-238                    | 5.64E-06                            |  |
|                          | -                                   |  |

#### **Waste Stream Description**

This waste stream is construction rubble generated during decontamination and decommissioning activities. This waste consists of blacktop/concrete/dirt/sand. The waste is generated from construction/demolition within the plutonium process buildings. The waste is usually packed in 55-gal. drums with multiple bag liners, a fiberboard liner, and a rigid polyethylene liner. Also, the waste can be packaged in DOT 7A, Type A metal boxes which are lined with a fiberboard and PVC liner. This waste is identified by IDC 374. Inventory data include mixed residues in this IDC.

IDC 374-Construction rubble generated during decontamination and decommissioning operations.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Process Solids/TRU HQ ID RF-W105 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Waste Matrix Code S3113 Activity Concentrations Decayed to CY 2002 Local ID Handling

#### **Final Waste Form Descriptors**

RF-TT0375A

Source: Materials Production/Waste Repackaging Category: Defense TRU Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.4    | 1.2   | 1.7   |
|                      | As-Generated Total | 0.4    | 1.2   | 1.7   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.4    | 1.3   | 1.7   |
|                    |        |       |       |

Final Form Total 0.4 1.3

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 108.12                        |
| Cellulosics                    | 0.96                          |
| Rubber                         | 0.00                          |
| Plastics                       | 23.87                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.45E-02                            |
| Np-237  | 5.53E-08                            |
| Pu-238  | 1.16E-02                            |
| Pu-239  | 2.71E-01                            |
| Pu-240  | 6.20E-02                            |
| Pu-241  | 8.91E-01                            |
| Pu-242  | 7.85E-06                            |
| Th-229  | 3.18E-16                            |
| Th-230  | 2.27E-11                            |
| Th-232  | 6.54E-18                            |
| U-233   | 1.05E-12                            |
| U-234   | 4.13E-07                            |
| U-235   | 3.21E-09                            |
| U-236   | 2.21E-08                            |
| U-238   | 1.42E-14                            |

#### **Waste Stream Description**

Oil-Dry used to absorb non-hazardous aqueous liquids.

#### **Management Comments**

6.54E-18

1.05E-12

4.13E-07

3.21E-09

2.21E-08

1.42E-14

#### Waste Stream ID: RF-TT0375B

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Solidified Process Solids/TRU **HQ ID** RF-W105 Inventory Date 9/30/2002 N/A Final Waste Form Solidified Organics Activity Concentrations Decayed to CY 2002 Local ID Handling CH Waste Matrix Code S3114 **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Defense TRU Waste Source: Materials Production/Waste Repackaging Average **Typical** Category: Density Concentration Material Parameter (kg/m3) Isotope (Ci/m3) Waste Volume Detail (m3) Iron-Base Metal/Alloys Am-241 2.45E-02 0.00 As-Generated Volumes Aluminum-Base Metal/Alloys 0.00 Np-237 5.53E-08 ContainerType Stored Proj. Total Other Metal/Alloys 0.00 Pu-238 1.16E-02 Drum / 55 gallon 0.4 1.2 1.7 Other Inorganic Materials 108.12 Pu-239 2.71E-01 0.4 1.2 1.7 **As-Generated Total** 6.20E-02 Cellulosics 0.96 Pu-240 Rubber 0.00 Pu-241 8.91E-01 **Final Form Volumes Plastics** 23.87 Pu-242 7.85E-06 ContainerType Stored Proj. Total Th-229 3.18E-16 Solidified, Inorganic Matrix 0.00 55 Gallon Drum 0.4 1.3 1.7 Cement (Solidified) 0.00 Th-230 2.27E-11 Final Form Total 0.4 1.3 1.7

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

138.43

32.46

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

#### **Waste Stream Description**

Oil-Dry used to absorb non-hazardous organic liquids.

#### **Management Comments**

## Waste Stream ID: RF-TT0376

**As-Generated Volumes** 

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                   |               |      | IRU WASTE BASELINE INVEN                           | NIOF | RY WASTE PROFILE          |                    |         |               |                       |
|----------|-------------------|---------------|------|--|------|---------------------------|--------------------|---------|---------------|-----------------------|
| HQ ID    | RF-W121           | Stream Name C | emen | ted filters/TRU                                    |      |                           |                    |         | Inventor      | y Date 9/30/2002      |
| Local ID | None              | Handling      | СН   | Final Waste Form Filter                            |      | Waste Matrix Code S5410   | Activity           | / Conce | ntrations Dec | ayed to CY 2002       |
| Final Wa | ste Form Descrip  | otors         |      |  |      | Waste Material Parameters |                    |         | Final Form R  | adionuclides          |
| Categ    | pory: Defense Ti  | RU Waste Sou  |      | Facility/Equipment Operation and Maintenance Waste |      |                           | Average<br>Density |         |               | Typical Concentration |
| Waste Vo | olume Detail (m3) | )             | -    |  |      | Material Parameter        | (kg/m3)            |         | Isotope       | (Ci/m3)               |
|          | ` '               | •             |      |  |      | Iron Rasa Motal/Allove    | 2.52               |         | Am 241        | 2 28 = 100            |

| ContainerType    |                    | Stored | Proj. | Total |
|------------------|--------------------|--------|-------|-------|
| Drum / 55 gallon |                    | 11.4   | 0.0   | 11.4  |
|                  | As-Generated Total | 11.4   | 0.0   | 11.4  |
| E E V. I         |                    |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 11.5   | 0.0   | 11.5  |
|                    | Final Form Total | 11.5   | 0.0   | 11.5  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.52                          |
| Aluminum-Base Metal/Alloys     | 16.25                         |
| Other Metal/Alloys             | 172.56                        |
| Other Inorganic Materials      | 73.46                         |
| Cellulosics                    | 12.68                         |
| Rubber                         | 8.99                          |
| Plastics                       | 13.79                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 10.26                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 27.71                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides  Typical Concentration (Ci/m3)  Am-241 2.28E+00  Np-237 1.59E-05  Pu-238 4.57E-01  Pu-239 1.32E+01  Pu-240 3.07E+00  Pu-241 3.21E+01  Pu-242 2.98E-04  Th-229 3.10E-13  Th-230 8.72E-09  Th-232 3.24E-16  U-233 6.16E-10 |               |  |
|---|---------------|--|
| Isotope   | Concentration |  |
| Am-241  | 2.28E+00      |  |
| Np-237  | 1.59E-05      |  |
|   | 4.57E-01      |  |
| Pu-239  | 1.32E+01      |  |
| Pu-240  | 3.07E+00      |  |
| Pu-241  | 3.21E+01      |  |
| Pu-242  | 2.98E-04      |  |
| Th-229  | 3.10E-13      |  |
| Th-230  | 8.72E-09      |  |
| Th-232  | 3.24E-16      |  |
| U-233   | 6.16E-10      |  |
| U-234   | 8.89E-05      |  |
| U-235   | 2.49E-06      |  |
| U-236   | 1.09E-06      |  |
| U-238   | 4.49E-06      |  |

### **Waste Stream Description**

Processed filter media, IDC 376, is material which has been treated using Portland cement to absorb moisture and neutralize acid contamination. Filter waste is packaged in 55-gallon drums and metal standard waste boxes. Inventory data include residues within the same IDCs because they are regulated as waste.

#### **Management Comments**

### Waste Stream ID: RF-TT0377

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID     | RF-W114           | Stream Name Mg O | xide Crucibles/TRU                  |   |                           |                    |       |                | y Date 9/30/2002      |
|-----------|-------------------|------------------|-------------------------------------|---|---------------------------|--------------------|-------|----------------|-----------------------|
| Local ID  | N/A               | Handling CH      | Final Waste Form Inorganic Non-Meta | I | Waste Matrix Code S5123   | Activity           | Conce | ntrations Deca | ayed to CY 2002       |
| Final Was | ste Form Descrip  | otors            |                                     | _ | Waste Material Parameters |                    |       | Final Form R   | adionuclides          |
| Catego    | ory: Defense TF   | RU Waste Source: | Decontamination and Decommissioning |   |                           | Average<br>Density |       |                | Typical Concentration |
| Waste Vo  | olume Detail (m3) |                  |                                     |   | Material Parameter        | (kg/m3)            |       | Isotope        | (Ci/m3)               |
| As-Ger    | nerated Volumes   |                  |                                     | 7 | Iron-Base Metal/Alloys    | 25.22              |       | Am-241         | 3.67E+00              |

Total

|                    | As-Generated Total | 1.7    | 1.0   | 2.7   |
|--------------------|--------------------|--------|-------|-------|
| Final Form Volumes |                    |        |       |       |
| ContainerType      |                    | Stored | Proj. | Total |
| 55 Gallon Drum     |                    | 1.7    | 1.0   | 2.7   |

| Final Form Total | 1.7 | 1.0 | 2.7 |
|------------------|-----|-----|-----|

Stored

1.7

Proj.

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 25.22                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 110.43                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.64                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.51                        |
| Packaging Material, Plastic    | 29.93                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|         | Typical       |
|---------|---------------|
|         | Concentration |
| Isotope | (Ci/m3)       |
| Am-241  | 3.67E+00      |
| Np-237  | 5.38E-05      |
| Pu-238  | 7.38E-01      |
| Pu-239  | 1.73E+01      |
| Pu-240  | 3.96E+00      |
| Pu-241  | 5.67E+01      |
| Pu-242  | 5.00E-04      |
| Th-229  | 1.33E-12      |
| Th-230  | 1.62E-08      |
| Th-232  | 4.17E-16      |
| U-233   | 2.46E-09      |
| U-234   | 1.63E-04      |
| U-235   | 4.56E-06      |
| U-236   | 1.41E-06      |
| U-238   | 3.83E-08      |

### **Waste Stream Description**

ContainerType

Drum / 55 gallon

"Firebrick, coarse consists of chunks of the unpulverized plutonium bearing surface layer of the high-density alumina ceramic material. Material is smaller than 1 inch in diameter and larger than 1/4 inch in diameter."

### **Management Comments**

#### Appendix J Waste Stream ID: RF-TT0391 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W116          | Stream Name | "Sand, | Slag, and Crucible/TRU"              |                           |                    | Inventor          | y Date 9/30/2002         |
|----------|------------------|-------------|--------|--------------------------------------|---------------------------|--------------------|-------------------|--------------------------|
| Local ID | N/A              | Handling    | СН     | Final Waste Form Inorganic Non-Metal | Waste Matrix Code S5129   | Activity Co        | oncentrations Dec | ayed to CY 2002          |
|          | ste Form Descrip |             |        |                                      | Waste Material Parameters |                    | Final Form R      | adionuclides             |
| Categ    | ory: Defense TI  | RU Waste So | urce:  | Materials Production                 |                           | Average            |                   | Typical                  |
| Waste V  | olume Detail (m3 | )           |        |                                      | Material Parameter        | Density<br>(kg/m3) | Isotope           | Concentration<br>(Ci/m3) |

Total

|                    | As-Generated Total | 0.4    | 0.0   | 0.4   |
|--------------------|--------------------|--------|-------|-------|
| Final Form Volumes |                    |        |       |       |
| ContainerType      |                    | Stored | Proj. | Total |
| 55 Gallon Drum     |                    | 0.4    | 0.0   | 0.4   |

|                  | Stored | Proj. | Total |
|------------------|--------|-------|-------|
|                  | 0.4    | 0.0   | 0.4   |
| Final Form Total | 0.4    | 0.0   | 0.4   |

Stored

0.4

Proj.

0.0

| Waste Material Parameters      |                               |  |  |
|--------------------------------|-------------------------------|--|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |  |
| Iron-Base Metal/Alloys         | 28.20                         |  |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |  |
| Other Metal/Alloys             | 0.00                          |  |  |
| Other Inorganic Materials      | 26.93                         |  |  |
| Cellulosics                    | 167.07                        |  |  |
| Rubber                         | 0.00                          |  |  |
| Plastics                       | 0.00                          |  |  |
| Solidified, Inorganic Matrix   | 0.00                          |  |  |
| Cement (Solidified)            | 0.00                          |  |  |
| Vitrified                      | 0.00                          |  |  |
| Solidified, Organic Matrix     | 0.00                          |  |  |
| Soils                          | 0.00                          |  |  |
| Packaging Material, Steel      | 131.00                        |  |  |
| Packaging Material, Plastic    | 37.00                         |  |  |
| Packaging Material, Lead       | 0.00                          |  |  |
| Packaging Material, Steel Plug | 0.00                          |  |  |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 8.46E+00                            |  |  |
| Np-237  | 3.79E-05                            |  |  |
| Pu-238  | 9.62E-01                            |  |  |
| Pu-239  | 4.05E+01                            |  |  |
| Pu-240  | 9.13E+00                            |  |  |
| Pu-241  | 9.19E+01                            |  |  |
| Pu-242  | 6.57E-04                            |  |  |
| Th-229  | 5.20E-13                            |  |  |
| Th-230  | 1.88E-09                            |  |  |
| Th-232  | 9.63E-16                            |  |  |
| U-233   | 1.18E-09                            |  |  |
| U-234   | 3.44E-05                            |  |  |

4.80E-07

3.25E-06

1.19E-12

U-235

U-236

U-238

#### **Waste Stream Description**

**As-Generated Volumes** ContainerType

Drum / 55 gallon

Unpulverized magnesium oxide sand and crucible generated from the separation of sand and crucible residues from slag residues following plutonium metal button breakout in Building 771.

#### **Management Comments**

Inventory Date 9/30/2002

#### Appendix J Waste Stream ID: RF-TT0392 TRU WASTE BASELINE INVENTORY WASTE PROFILE

"Sand, Slag, and Crucible/TRU" HQ ID RF-W116 Stream Name N/A Final Waste Form Inorganic Non-Metal Local ID Handling CH **Waste Matrix Code Final Waste Form Descriptors** Source: Materials Production Defense TRU Waste Category: Waste Volume Detail (m3) As-Generated Volumes ContainerType Stored Proj. Total Drum / 55 gallon 0.2 0.0 0.2 0.2 0.0 0.2 **As-Generated Total** 

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 26.82                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 25.48                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

S5129

#### **Final Form Radionuclides**

Activity Concentrations Decayed to CY 2002

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.99E+00                            |
| Np-237  | 2.06E-05                            |
| Pu-238  | 1.21E+00                            |
| Pu-239  | 4.24E+01                            |
| Pu-240  | 9.65E+00                            |
| Pu-241  | 6.36E+01                            |
| Pu-242  | 6.19E-04                            |
| Th-229  | 1.85E-13                            |
| Th-230  | 2.45E-09                            |
| Th-232  | 1.02E-15                            |
| U-233   | 5.08E-10                            |
| U-234   | 4.40E-05                            |
| U-235   | 5.27E-07                            |
| U-236   | 3.43E-06                            |
| U-238   | 2.27E-10                            |

#### **Waste Stream Description**

"Unpulverized magnesium oxide sand, calcium fluoride slag, and magnesium oxide crucible generated during plutonium metal button breakout following plutonium tetrafluoride reduction in Building 771."

#### **Management Comments**

# RF-TT0393 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

0.0

0.0

| HQ ID RF-W116 Stream Name "Sand, Slag, a Local ID N/A Handling CH   | and Crucible/TRU"  Final Waste Form Solidified Inorganics | Waste Matrix Code S3119    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|---|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors  |   | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Materi Waste Volume Detail (m3) | als Recovery  | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |   | Iron-Base Metal/Alloys     | 0.00                          | Am-241     | 8.49E+00                                |
| ContainerType   | Stored Proj. Total  | Aluminum-Base Metal/Alloys | 0.00                          | Np-237     | 1.12E-03                                |
| Drum / 55 gallon  | 11.0 0.0 11.0   | Other Metal/Alloys         | 0.00                          | Pu-238     | 1.59E+00                                |

11.0

11.0

| Final Form Volumes |        |       |       |  |
|--------------------|--------|-------|-------|--|
| ContainerType      | Stored | Proj. | Total |  |
| 55 Gallon Drum     | 11.0   | 0.0   | 11.0  |  |
|                    |        | •     |       |  |

As-Generated Total

Final Form Total

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 235.33                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 33.41                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 41.05                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Concentration<br>(Ci/m3) |  |
|---------|--------------------------|--|
| Am-241  | 8.49E+00                 |  |
| Np-237  | 1.12E-03                 |  |
| Pu-238  | 1.59E+00                 |  |
| Pu-239  | 3.72E+01                 |  |
| Pu-240  | 8.52E+00                 |  |
| Pu-241  | 1.22E+02                 |  |
| Pu-242  | 1.08E-03                 |  |
| Th-229  | 3.22E-11                 |  |
| Th-230  | 3.11E-09                 |  |
| Th-232  | 8.99E-16                 |  |
| U-233   | 5.76E-08                 |  |

5.68E-05

4.41E-07

3.03E-06

1.95E-12

U-234

U-235

U-236

U-238

### **Waste Stream Description**

Waste Stream ID:

"Undissolved solids from dissolution of pulverized magnesium oxide sand, calcium fluoride slag, and magnesium oxide crucible (IDCs 396 and 398) in nitric acid."

11.0

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX or RF-MTXXXX), but is being re-characterized as non-mixed waste.

# Waste Stream ID: RF-TT0398 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible/TRU" Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Recovery

#### Waste Volume Detail (m3)

|        | As-Generated Volumes |         |  |  |
|--------|----------------------|---------|--|--|
| Stored | Proj.                | Total   |  |  |
| 0.0    | 0.0                  | 0.0     |  |  |
| 0.2    | 0.0                  | 0.2     |  |  |
|        | 0.0                  | 0.0 0.0 |  |  |

As-Generated Total 0.2 0.0 0.2

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.4    | 0.0   | 0.4   |

**Final Form Total** 0.4 0.0 0.4

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 21.60                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 22.49                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.96                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.27E+00                            |
| Np-237  | 1.79E-05                            |
| Pu-238  | 1.11E+00                            |
| Pu-239  | 3.96E+01                            |
| Pu-240  | 8.96E+00                            |
| Pu-241  | 6.01E+01                            |
| Pu-242  | 5.44E-04                            |
| Th-229  | 1.60E-13                            |
| Th-230  | 2.20E-09                            |
| Th-232  | 9.46E-16                            |
| U-233   | 4.41E-10                            |
| U-234   | 4.00E-05                            |
| U-235   | 4.76E-07                            |
| U-236   | 3.19E-06                            |
| U-238   | 6.13E-11                            |

#### **Waste Stream Description**

"Pulverized sand, slag, and crucible generated from the crushing and grinding of magnesium oxide sand, calcium fluoride slag, and broken magnesium oxide reduction crucibles (IDC 392), in preparation for dissolution."

#### **Management Comments**

0.00

Packaging Material, Steel Plug

# Waste Stream ID: RF-TT0409 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RF-TT0409         Stream Name         N/A           Local ID         N/A         Handling         CH         Final Was | ste Form | Salt  |       | Waste Matrix Code S3141      | Activity Co                   |            | ory Date 9/30/200                  |
|--|----------|-------|-------|------------------------------|-------------------------------|------------|------------------------------------|
| Final Waste Form Descriptors   |          |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides                      |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |          |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentratio<br>(Ci/m3) |
| As-Generated Volumes   |          |       |       | Iron-Base Metal/Alloys       | 11.20                         | Am-241     | 1.07E+01                           |
| ContainerType  | Stored   | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.99E-05                           |
| Drum / 55 gallon   | 0.2      | 0.0   | 0.2   | Other Metal/Alloys           | 6.51                          | Pu-238     | 1.04E+00                           |
|  |          |       |       | Other Inorganic Materials    | 18.41                         | Pu-239     | 4.09E+01                           |
| As-Generated Total   | 0.2      | 0.0   | 0.2   | Cellulosics                  | 167.07                        | Pu-240     | 9.25E+00                           |
| Final Form Volumes   |          |       |       | Rubber                       | 0.00                          | Pu-241     | 4.63E+01                           |
| ContainerType  | Stored   | Proj. | Total | Plastics                     | 1.27                          | Pu-242     | 7.25E-04                           |
| 55 Gallon Drum   | 0.2      | 0.0   |       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 3.78E-13                           |
|  |          |       |       | Cement (Solidified)          | 0.00                          | Th-230     | 2.36E-09                           |
| Final Form Total   | 0.2      | 0.0   | 0.2   | Vitrified                    | 0.00                          | Th-232     | 9.76E-16                           |
|  |          |       |       | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.02E-09                           |
|  |          |       |       | Soils                        | 0.00                          | U-234      | 4.01E-05                           |
|  |          |       |       | Packaging Material, Steel    | 131.00                        | U-235      | 5.81E-07                           |
|  |          |       |       | Packaging Material, Plastic  | 37.00                         | U-236      | 3.29E-06                           |
|  |          |       |       | Packaging Material Lead      | 0.00                          | U-238      | 8 64F-10                           |

### **Waste Stream Description**

N/A

### **Management Comments**

## Waste Stream ID: RF-TT0412 Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|   | ste Form S | oaii  |       | Waste Matrix Code S3141                       | Activity Co                   |            | ecayed to CY 200              |
|---|------------|-------|-------|---|-------------------------------|------------|-------------------------------|
| Final Waste Form Descriptors Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3)   |            |       |       | Waste Material Parameters  Material Parameter | Average<br>Density<br>(kg/m3) | Final Form | Typical Concentration (Ci/m3) |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys                        | 11.20                         | Am-241     | 1.07E+01                      |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys                    | 0.00                          | Np-237     | 3.99E-05                      |
| Drum / 55 gallon  | 0.2        | 0.0   |       | Other Metal/Alloys                            | 6.51                          | Pu-238     | 1.04E+00                      |
| , in the second |            |       |       | Other Inorganic Materials                     | 18.41                         | Pu-239     | 4.09E+01                      |
| As-Generated Total  | 0.2        | 0.0   | 0.2   | Cellulosics                                   | 167.07                        | Pu-240     | 9.25E+00                      |
| Final Form Volumes  |            |       |       | Rubber  | 0.00                          | Pu-241     | 4.63E+01                      |
| ContainerType   | Stored     | Proj. | Total | Plastics                                      | 1.27                          | Pu-242     | 7.25E-04                      |
| 55 Gallon Drum  | 0.2        | 0.0   | 0.2   | Solidified, Inorganic Matrix                  | 0.00                          | Th-229     | 3.78E-13                      |
|   |            |       |       | Cement (Solidified)                           | 0.00                          | Th-230     | 2.36E-09                      |
| Final Form Total  | 0.2        | 0.0   | 0.2   | Vitrified                                     | 0.00                          | Th-232     | 9.76E-16                      |
|   |            |       |       | Solidified, Organic Matrix                    | 0.00                          | U-233      | 1.02E-09                      |
|   |            |       |       | Soils   | 0.00                          | U-234      | 4.01E-05                      |
|   |            |       |       | Packaging Material, Steel                     | 131.00                        | U-235      | 5.81E-07                      |
|   |            |       |       | Packaging Material, Plastic                   | 37.00                         | U-236      | 3.29E-06                      |
|   |            |       |       | Packaging Material, Lead                      | 0.00                          | U-238      | 8.64E-10                      |
|   |            |       |       | Packaging Material, Steel Plug                | 0.00                          |            |                               |

### **Management Comments**

N/A

### Appendix J Waste Stream ID: RF-TT0414

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-TT0414 Stream Name N/A                                  |         |       |       |                                |                               | Invento          | ory Date 9/30/200                   |
|--|---------|-------|-------|--------------------------------|-------------------------------|------------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste Fo                          | orm Sal | t     |       | Waste Matrix Code S3141        | Activity Co                   | oncentrations De | ecayed to CY 200                    |
| Final Waste Form Descriptors                                     |         |       |       | Waste Material Parameters      |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: N/A Waste Volume Detail (m3) |         |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |       |       | Iron-Base Metal/Alloys         | 11.20                         | Am-241           | 1.07E+01                            |
| ContainerType Stor   | red     | Proj. | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237           | 3.99E-05                            |
| Drum / 55 gallon   | 6.4     | 0.0   | 6.4   | Other Metal/Alloys             | 6.51                          | Pu-238           | 1.04E+00                            |
|  |         |       |       | Other Inorganic Materials      | 18.41                         | Pu-239           | 4.09E+01                            |
| As-Generated Total   | 6.4     | 0.0   | 6.4   | Cellulosics                    | 167.07                        | Pu-240           | 9.25E+00                            |
| Final Form Volumes   |         |       |       | Rubber                         | 0.00                          | Pu-241           | 4.63E+01                            |
| ContainerType Store  | red I   | Proj. | Total | Plastics                       | 1.27                          | Pu-242           | 7.25E-04                            |
|  | 6.5     | 0.0   | 6.5   | Solidified, Inorganic Matrix   | 0.00                          | Th-229           | 3.78E-13                            |
|  |         | 1     |       | Cement (Solidified)            | 0.00                          | Th-230           | 2.36E-09                            |
| Final Form Total   | 6.5     | 0.0   | 6.5   | Vitrified                      | 0.00                          | Th-232           | 9.76E-16                            |
|  |         |       |       | Solidified, Organic Matrix     | 0.00                          | U-233            | 1.02E-09                            |
|  |         |       |       | Soils                          | 0.00                          | U-234            | 4.01E-05                            |
|  |         |       |       | Packaging Material, Steel      | 131.00                        | U-235            | 5.81E-07                            |
|  |         |       |       | Packaging Material, Plastic    | 37.00                         | U-236            | 3.29E-06                            |
|  |         |       |       | Packaging Material, Lead       | 0.00                          | U-238            | 8.64E-10                            |
|  |         |       |       | Packaging Material, Steel Plug | 0.00                          |                  |                                     |

# **Waste Stream Description**

N/A

### **Management Comments**

#### Appendix J RF-TT0430 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Organic Resins/TRU HQ ID RF-W122 Inventory Date 9/30/2002 Handling CH Final Waste Form Combustible Waste Matrix Code S5313 Activity Concentrations Decayed to CY 2002 Local ID None

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |  |
|----------------------|--------------------|--------|-------|-------|--|--|
| ContainerType        |                    | Stored | Proj. | Total |  |  |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |  |  |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |  |  |

| Final Form Volumes |                  |        |       |       |  |  |
|--------------------|------------------|--------|-------|-------|--|--|
| ContainerType      |                  | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |  |  |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |  |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 26.73                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 34.37                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 4.78E-02                            |  |  |  |
| Np-237                   | 1.02E-07                            |  |  |  |
| Pu-238                   | 2.40E-02                            |  |  |  |
| Pu-239                   | 5.63E-01                            |  |  |  |
| Pu-240                   | 1.29E-01                            |  |  |  |
| Pu-241                   | 1.85E+00                            |  |  |  |
| Pu-242                   | 1.63E-05                            |  |  |  |
| Th-229                   | 5.38E-16                            |  |  |  |
| Th-230                   | 4.70E-11                            |  |  |  |
| Th-232                   | 1.36E-17                            |  |  |  |
| U-233                    | 1.86E-12                            |  |  |  |
| U-234                    | 8.58E-07                            |  |  |  |
| U-235                    | 6.66E-09                            |  |  |  |
| U-236                    | 4.58E-08                            |  |  |  |
| U-238                    | 2.95E-14                            |  |  |  |

**Waste Stream Description** 

It consists of unleached resin (IDC 430).

**Management Comments** 

# Waste Stream ID: RF-TT0431 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W122 Stream Name Organic Resins/TRU Inventory Date 9/30/2002
Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5313 Activity Concentrations Decayed to CY 2002

21.3

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

### Waste Volume Detail (m3)

| As-Generated Volumes |             |                     |  |  |  |  |
|----------------------|-------------|---------------------|--|--|--|--|
| Stored               | Proj.       | Total               |  |  |  |  |
| 0.0                  | 0.0         | 0.0                 |  |  |  |  |
| 20.0                 | 1.0         | 21.0                |  |  |  |  |
| 0.3                  | 0.0         | 0.3                 |  |  |  |  |
|                      | 0.0<br>20.0 | 0.0 0.0<br>20.0 1.0 |  |  |  |  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 20.6   | 1.0   | 21.7  |

**As-Generated Total** 

20.6 1.0 21.7

Final Form Total 20.6 1.0 21.7

20.3

1.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.27                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 4.77                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 25.99                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 121.07                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.45                        |
| Packaging Material, Plastic    | 25.89                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.15E-01                            |
| Np-237  | 3.45E-07                            |
| Pu-238  | 5.36E-02                            |
| Pu-239  | 1.26E+00                            |
| Pu-240  | 2.88E-01                            |
| Pu-241  | 4.01E+00                            |
| Pu-242  | 3.52E-05                            |
| Th-229  | 3.87E-15                            |
| Th-230  | 1.15E-09                            |
| Th-232  | 3.04E-17                            |
| U-233   | 9.23E-12                            |
| U-234   | 1.16E-05                            |
| U-235   | 3.29E-07                            |
| U-236   | 1.03E-07                            |
| U-238   | 2.78E-09                            |

**Waste Stream Description** 

It consists of leached resin (IDC 431).

**Management Comments** 

#### Appendix J Waste Stream ID: **RF-TT0438** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Inventory Date 9/30/2002 HQ ID RF-W115 Stream Name Insulation/TRU CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002 Local ID None Handling

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

| As-Generated Volumes |                          |  |  |  |  |  |
|----------------------|--------------------------|--|--|--|--|--|
| Stored               | Proj.                    | Total                                    |  |  |  |  |
| 1.6                  | 0.0                      | 1.6                                      |  |  |  |  |
| 0.0                  | 0.0                      | 0.0                                      |  |  |  |  |
| 0.0                  | 0.0                      | 0.0                                      |  |  |  |  |
| 0.0                  | 0.0                      | 0.0                                      |  |  |  |  |
| 56.0                 | 2.9                      | 58.9                                     |  |  |  |  |
|                      | 1.6<br>0.0<br>0.0<br>0.0 | 1.6 0.0<br>0.0 0.0<br>0.0 0.0<br>0.0 0.0 |  |  |  |  |

| <b>As-Generated Total</b> | 57.6 | 2.9 | 60.5 |
|---------------------------|------|-----|------|

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 56.5   | 2.9   | 59.4  |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 65.9   | 2.9   | 68.9  |

Other Metal/Alloys

Packaging Material, Lead

Packaging Material, Steel Plug

Aluminum-Base Metal/Alloys

**Waste Material Parameters** 

**Material Parameter** 

Iron-Base Metal/Alloys

Other Inorganic Materials 40.01 12.89 Cellulosics 2.01 Rubber Plastics 15.52 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 0.00 Soils 0.00 Packaging Material, Steel 140.47 Packaging Material, Plastic 27.48

Average Density

(kg/m3)

29.75

0.00

0.00

0.00

0.00

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.47E+00                            |
| Np-237  | 1.59E-05                            |
| Pu-238  | 6.45E-01                            |
| Pu-239  | 2.04E+01                            |
| Pu-240  | 4.64E+00                            |
| Pu-241  | 3.75E+01                            |
| Pu-242  | 3.89E-04                            |
| Th-229  | 2.23E-13                            |
| Th-230  | 3.53E-09                            |
| Th-232  | 4.89E-16                            |
| U-233   | 5.00E-10                            |
| U-234   | 4.41E-05                            |
| U-235   | 9.21E-07                            |
| U-236   | 1.65E-06                            |
| U-238   | 6.01E-09                            |

#### **Waste Stream Description**

This waste stream is contaminated insulation.

#### **Management Comments**

## Waste Stream ID: RF-TT0440

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| 11.01   | .,          |            |           |                                |                               |            |                                     |
|---|-------------|------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W113 Stream Name Glass/TRU                         |             |            |           |                                |                               | Invent     | ory Date 9/30/200                   |
|   | ste Form    | norganic l | Non-Metal | Waste Matrix Code S5122        | Activity Co                   |            | ecayed to CY 200                    |
| Final Waste Form Descriptors                                |             |            |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste | t Operation | and Mair   | ntenance  | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)                                    |             |            |           | Iron-Base Metal/Alloys         | 12.14                         | Am-241     | 3.27E-01                            |
| As-Generated Volumes  |             |            |           | Aluminum-Base Metal/Alloys     | 0.87                          | Np-237     | 6.84E-06                            |
| ContainerType   | Stored      | Proj.      | Total     | Other Metal/Alloys             | 0.45                          | Pu-238     | 6.30E-02                            |
| 8802 Can  | 0.0         | 0.0        |           | Other Inorganic Materials      | 180.35                        | Pu-239     | 2.02E+00                            |
| 8804 Can  | 0.0         | 0.0        |           | Cellulosics                    | 9.60                          | Pu-240     | 4.72E-01                            |
| Drum / 55 gallon  | 27.5        | 2.1        |           | Rubber                         | 0.00                          | Pu-241     | 4.22E+00                            |
| POC / 55 gallon   | 0.6         | 0.0        |           | Plastics                       | 20.72                         | Pu-242     | 4.36E-05                            |
| Standard Waste Box  | 1.9         | 17.1       | 19.0      | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 1.77E-13                            |
| As-Generated Total  | 30.0        | 19.2       | 49.2      | Cement (Solidified)            | 0.00                          | Th-230     | 7.89E-09                            |
| - ·- ··   |             |            |           | Vitrified                      | 0.00                          | Th-232     | 4.98E-17                            |
| Final Form Volumes  |             |            |           | Solidified, Organic Matrix     | 0.00                          | U-233      | 3.25E-10                            |
| ContainerType   | Stored      | Proj.      | Total     | Soils                          | 0.00                          | U-234      | 7.43E-05                            |
| 55 Gallon Drum  | 29.0        | 2.1        |           | Packaging Material, Steel      | 148.49                        | U-235      | 2.38E-06                            |
| 55 Gallon POCs  | 0.6         | 0.0        |           | Packaging Material, Plastic    | 19.10                         | U-236      | 1.68E-07                            |
| Standard Waste Box  | 1.9         | 17.0       | 18.9      | Packaging Material, Lead       | 0.00                          | U-238      | 7.12E-07                            |
| Final Form Total  | 31.5        | 19.1       | 50.6      | Packaging Material, Steel Plug | 0.00                          |            |                                     |

### **Waste Stream Description**

This waste stream is made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W113 Stream Name Glass Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5122 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RF-TT0441** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                |       |       |       |
|----------------------|----------------|-------|-------|-------|
| ContainerType        | S              | tored | Proj. | Total |
| Drum / 55 gallon     |                | 138.9 | 2.7   | 141.6 |
| As-G                 | enerated Total | 138.9 | 2.7   | 141.6 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 139.2  | 2.7   | 142.0 |
|                    |        |       |       |

**Final Form Total** 139.2 2.7 142.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 247.74                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 370.89                        |
| Other Inorganic Materials      | 480.51                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.45                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.56                        |
| Packaging Material, Plastic    | 36.75                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.64E-01                            |
| Np-237  | 4.74E-06                            |
| Pu-238  | 1.46E-01                            |
| Pu-239  | 3.46E+00                            |
| Pu-240  | 7.92E-01                            |
| Pu-241  | 1.11E+01                            |
| Pu-242  | 9.83E-05                            |
| Th-229  | 8.73E-14                            |
| Th-230  | 3.72E-09                            |
| Th-232  | 8.35E-17                            |
| U-233   | 1.77E-10                            |
| U-234   | 3.71E-05                            |
| U-235   | 1.09E-06                            |
| U-236   | 2.82E-07                            |
| U-238   | 2.50E-06                            |

### **Waste Stream Description**

This waste stream is made up of Raschig Rings which are borosilicate glass rings used to maintain subcritical conditions in fissile solution storage tanks.

#### **Management Comments**

## Waste Stream ID: RF-TT0442 Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| i         |                   | _           |           |  |   |                           |               | _                |                  |
|-----------|-------------------|-------------|-----------|--|---|---------------------------|---------------|------------------|------------------|
| HQ ID     | RF-W113           | Stream Name | Glass/TRl | J  |   |                           |               | Inventory        | / Date 9/30/2002 |
| Local ID  | None              | Handling    | СН        | Final Waste Form Inorganic Non-Metal       |   | Waste Matrix Code S5122   | Activity Con- | centrations Deca | yed to CY 2002   |
| Final Wa  | ste Form Descrip  | 4           |           |  |   |                           |               |                  |                  |
| riliai wa | iste Form Descrip | tors        |           |  |   | Waste Material Parameters |               | Final Form Ra    | adionuclides     |
|           | gory: Defense TF  |             | urce: Fa  | cility/Equipment Operation and Maintenance | 1 | Waste Material Parameters | Average       | Final Form Ra    | Typical          |

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |  |  |  |  |
|----------------------|--------|-------|-------|--|--|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |  |  |
| 8804 Can             | 0.0    | 0.0   | 0.0   |  |  |  |  |
| Box / Metal          | 6.3    | 0.0   | 6.3   |  |  |  |  |
| Drum / 55 gallon     | 37.9   | 2.1   | 39.9  |  |  |  |  |
| POC / 55 gallon      | 1.7    | 0.0   | 1.7   |  |  |  |  |
| As-Generated Total   | 45.9   | 2.1   | 48.0  |  |  |  |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 38.8   | 2.1   | 40.9  |
| 55 Gallon POCs     |                  | 1.7    | 0.0   | 1.7   |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 44.2   | 2.1   | 46.3  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 4.54                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 306.14                        |
| Cellulosics                    | 12.84                         |
| Rubber                         | 0.00                          |
| Plastics                       | 21.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 153.52                        |
| Packaging Material, Plastic    | 25.97                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.45E-01                            |
| Np-237  | 2.14E-06                            |
| Pu-238  | 7.52E-02                            |
| Pu-239  | 1.91E+00                            |
| Pu-240  | 4.35E-01                            |
| Pu-241  | 4.31E+00                            |
| Pu-242  | 3.95E-05                            |
| Th-229  | 3.90E-14                            |
| Th-230  | 1.24E-08                            |
| Th-232  | 4.59E-17                            |
| U-233   | 7.93E-11                            |
| U-234   | 1.16E-04                            |
| U-235   | 3.55E-06                            |
| U-236   | 1.55E-07                            |
| U-238   | 3.87E-07                            |

#### **Waste Stream Description**

This waste stream is made up of Raschig Rings which are borosilicate glass rings used to maintain subcritical conditions in fissile solution storage tanks.

### **Management Comments**

#### RF-TT0443 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RF-W113<br>N/A    | Stream Name<br>Handling |        | TRU Final Waste Form Inorganic Non-Metal                 | Waste Matrix Code S5122   | Activity           | Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|-------------------|-------------------------|--------|--|---------------------------|--------------------|-------|--------------|-------------------------------------|
| Final Wa          | ste Form Descrip  | otors                   |        | _  | Waste Material Parameters |                    |       | Final Form R | adionuclides                        |
| Categ             | gory: Defense TF  | RU Waste So             | ource: | Materials Production/Decontamination and Decommissioning |                           | Average<br>Density |       |              | Typical<br>Concentration            |
| Waste V           | olume Detail (m3) | 1                       |        |  | Material Parameter        | (kg/m3)            |       | Isotope      | (Ci/m3)                             |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.8   | 1.0   |
|                      | As-Generated Total | 0.2    | 0.8   | 1.0   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.8   | 1.0   |
|                    |        |       |       |

Final Form Total 8.0

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 337.60                        |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 19.65                         |
| Solidified, Inorganic Matrix   | 0.96                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.44                        |
| Packaging Material, Plastic    | 24.56                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 1.29E-01                            |  |  |  |  |
| Np-237                   | 4.37E-07                            |  |  |  |  |
| Pu-238                   | 5.33E-02                            |  |  |  |  |
| Pu-239                   | 1.28E+00                            |  |  |  |  |
| Pu-240                   | 2.92E-01                            |  |  |  |  |
| Pu-241                   | 3.87E+00                            |  |  |  |  |
| Pu-242                   | 3.44E-05                            |  |  |  |  |
| Th-229                   | 5.44E-15                            |  |  |  |  |
| Th-230                   | 9.85E-10                            |  |  |  |  |
| Th-232                   | 3.08E-17                            |  |  |  |  |
| U-233                    | 1.25E-11                            |  |  |  |  |
| U-234                    | 1.01E-05                            |  |  |  |  |
| U-235                    | 3.49E-07                            |  |  |  |  |
| U-236                    | 1.04E-07                            |  |  |  |  |
| U-238                    | 7.68E-06                            |  |  |  |  |
|                          |                                     |  |  |  |  |

#### **Waste Stream Description**

"Rachig rings leached with dilute nitric acid or water, and rinsed with carbon tetrachloride or 1,1,1-trichloroethane prior to removal from process tanks. These rings have no visible solvent contamination."

### **Management Comments**

## Waste Stream ID: RF-TT0479 Appendix J

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Local ID None Handling CH Final Wa  | ste Form | Jncategori | zed Metal | Waste Matrix Code S5111        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|---|----------|------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors  |          |            |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |          |            |           | Iron-Base Metal/Alloys         | 85.09                         | Am-241          | 2.07E+00                            |
| ContainerType   | Stored   | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 4.44E-06                            |
| Drum / 55 gallon  | 1.0      | 0.0        | 1.0       | Other Metal/Alloys             | 0.00                          | Pu-238          | 1.04E+00                            |
|   |          |            |           | Other Inorganic Materials      | 0.00                          | Pu-239          | 2.44E+01                            |
| As-Generated Total  | 1.0      | 0.0        | 1.0       | Cellulosics                    | 12.89                         | Pu-240          | 5.58E+00                            |
| Final Form Volumes  |          |            |           | Rubber                         | 0.00                          | Pu-241          | 8.02E+01                            |
| ContainerType   | Stored   | Proj.      | Total     | Plastics                       | 6.52                          | Pu-242          | 7.07E-04                            |
| 55 Gallon Drum  | 1.0      | 0.0        | 1.0       | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.33E-14                            |
|   | l        | 1          |           | Cement (Solidified)            | 0.00                          | Th-230          | 2.04E-09                            |
| Final Form Total  | 1.0      | 0.0        | 1.0       | Vitrified                      | 0.00                          | Th-232          | 5.89E-16                            |
|   |          |            |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 8.05E-11                            |
|   |          |            |           | Soils                          | 0.00                          | U-234           | 3.72E-05                            |
|   |          |            |           | Packaging Material, Steel      | 138.57                        | U-235           | 2.89E-07                            |
|   |          |            |           | Packaging Material, Plastic    | 28.64                         | U-236           | 1.99E-06                            |
|   |          |            |           | Packaging Material, Lead       | 0.00                          | U-238           | 1.28E-12                            |
|   |          |            |           | Packaging Material, Steel Plug | 0.00                          |                 | <b></b>                             |

Management Comments

## Waste Stream ID: RF-TT0480

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W109 Stream Name METAL/TRU  |         |            |           |                                |                               | Invent     | ory Date 9/30/2002                  |
|--|---------|------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID None Handling CH Final Was  | te Form | Jncategori | zed Metal | Waste Matrix Code S5111        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |         |            |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source Waste Volume Detail (m3) | rces    |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |            |           | Iron-Base Metal/Alloys         | 244.02                        | Am-241     | 6.39E-01                            |
| ContainerType  | Stored  | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 44.09                         | Cs-137     | 4.71E-05                            |
| 8802 Can   | 0.1     | 0.0        | 0.1       | Other Metal/Alloys             | 41.90                         | Np-237     | 3.49E-06                            |
| Box / Metal  | 3.2     | 0.0        | 3.2       | Other Inorganic Materials      | 8.14                          | Pu-238     | 1.19E-01                            |
| Box / Misc.  | 3.2     | 0.0        | 3.2       | Cellulosics                    | 7.41                          | Pu-239     | 2.80E+00                            |
| Drum / 55 gallon   | 36.2    | 41.6       | 77.8      | Rubber                         | 2.92                          | Pu-240     | 6.42E-01                            |
| Drum / 85 gallon   | 2.6     | 0.0        | 2.6       | Plastics                       | 12.37                         | Pu-241     | 8.40E+00                            |
| Standard Waste Box   | 60.8    | 83.6       | 144.4     | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 7.50E-05                            |
| -  | l.      |            |           | Cement (Solidified)            | 0.00                          | Th-229     | 5.84E-14                            |
| As-Generated Total   | 106.0   | 125.2      | 231.2     | Vitrified                      | 0.00                          | Th-230     | 2.46E-09                            |
| Final Form Volumes   |         |            |           | Solidified, Organic Matrix     | 0.03                          | Th-232     | 6.77E-17                            |
|  | Stored  | Proj.      | Total     | Soils                          | 0.00                          | U-233      | 1.22E-10                            |
| 55 Gallon Drum   | 42.5    | 41.7       | 84.2      | Packaging Material, Steel      | 147.52                        | U-234      | 2.49E-05                            |
| Standard Waste Box   | 64.3    | 83.2       | 147.4     | Packaging Material, Plastic    | 13.35                         | U-235      | 7.03E-07                            |
|  |         | 1          |           | Packaging Material, Lead       | 0.00                          | U-236      | 2.28E-07                            |
| Final Form Total   | 106.8   | 124.8      | 231.6     | Packaging Material, Steel Plug | 0.00                          | U-238      | 3.31E-07                            |

#### **Waste Stream Description**

This waste includes items such as gloveboxes and machinery, and empty containers. Items that are difficult to reduce to a size that would fit in a 55-gal. drum are placed in DOT 7A, Type A metal boxes. These drums are lined with a rigid polyethylene liner, fiberboard liner and several bag liners. The boxes are lined with a fiberboard and PVC liner.

#### **Management Comments**

# RF-TT0481 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name METAL/TRU Inventory Date 9/30/2002 HQ ID RF-W109 СН Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors** Waste Material Parameters Final Form Radionuclides Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    |        |       |       |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon Drum |                  | 0.2    | 0.0   | 0.2   |
|                | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 289.03                        |
| Aluminum-Base Metal/Alloys     | 107.52                        |
| Other Metal/Alloys             | 54.96                         |
| Other Inorganic Materials      | 10.28                         |
| Cellulosics                    | 12.85                         |
| Rubber                         | 2.10                          |
| Plastics                       | 20.00                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 6.39E-01                            |  |  |  |
| Cs-137                   | 4.71E-05                            |  |  |  |
| Np-237                   | 3.49E-06                            |  |  |  |
| Pu-238                   | 1.19E-01                            |  |  |  |
| Pu-239                   | 2.80E+00                            |  |  |  |
| Pu-240                   | 6.42E-01                            |  |  |  |
| Pu-241                   | 8.40E+00                            |  |  |  |
| Pu-242                   | 7.50E-05                            |  |  |  |
| Th-229                   | 5.84E-14                            |  |  |  |
| Th-230                   | 2.46E-09                            |  |  |  |
| Th-232                   | 6.77E-17                            |  |  |  |
| U-233                    | 1.22E-10                            |  |  |  |
| U-234                    | 2.49E-05                            |  |  |  |
| U-235                    | 7.03E-07                            |  |  |  |
| U-236                    | 2.28E-07                            |  |  |  |
| U-238                    | 3.31E-07                            |  |  |  |

### **Waste Stream Description**

Light Metal, IDC480, was rinsed to remove plutonium contamination and assigned IDC481.

#### **Management Comments**

## Waste Stream ID: RF-TT0483

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RF-W109         Stream Name         Metal/TRU           Local ID         N/A         Handling         CH         Final Wa | ste Form  | Uncategor    | ized Metal | Waste Matrix Code S5111       | Activity Co                   |          | ory Date 9/30/2002                  |
|---|-----------|--------------|------------|-------------------------------|-------------------------------|----------|-------------------------------------|
| Final Waste Form Descriptors  |           | <u>araga</u> |            | Waste Material Parameters     | Activity Co                   |          | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3)   | and Decom | nmissionin   | g          | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope  | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |              |            | Iron-Base Metal/Alloys        | 4.77                          | Am-241   | 3.19E-01                            |
| ContainerType   | Stored    | Proj.        | Total      | Aluminum-Base Metal/Alloys    | 0.00                          | Np-237   | 6.84E-07                            |
| Drum / 55 gallon  | 0.8       |              |            | Other Metal/Alloys            | 430.08                        | Pu-238   | 1.61E-01                            |
|   | ll        |              |            | Other Inorganic Materials     | 0.00                          | Pu-239   | 3.76E+00                            |
| As-Generated Total  | 8.0       | 0.0          | 8.0        | Cellulosics                   | 0.00                          | Pu-240   | 8.60E-01                            |
| Final Form Volumes  |           |              |            | Rubber                        | 0.00                          | Pu-241   | 1.24E+01                            |
| ContainerType   | Stored    | Proj.        | Total      | Plastics                      | 17.18                         | Pu-242   | 1.09E-04                            |
| 55 Gallon Drum  | 0.8       | 0.0          | 0.8        | Solidified, Inorganic Matrix  | 0.00                          | Th-229   | 3.59E-15                            |
|   |           |              |            | Cement (Solidified)           | 0.00                          | Th-230   | 2.23E-06                            |
| Final Form Total  | 8.0       | 0.0          | 8.0        | Vitrified                     | 0.00                          | Th-232   | 9.07E-17                            |
|   |           |              |            | Solidified, Organic Matrix    | 0.00                          | U-233    | 1.24E-11                            |
|   |           |              |            | Soils                         | 0.00                          | U-234    | 2.06E-02                            |
|   |           |              |            | Packaging Material, Steel     | 138.43                        | U-235    | 1.26E-03                            |
|   |           |              |            | Packaging Material, Plastic   | 23.87                         | U-236    | 3.06E-07                            |
|   |           |              |            | Packaging Material, Lead      | 0.00                          | U-238    | 1.54E-01                            |
|   |           |              |            | Packaging Material Steel Plug | 0.00                          | <u> </u> |                                     |

### **Waste Stream Description**

Depleted uranium stock material removed from plutonium buildings during decontamination and decommissioning activities.

### **Management Comments**

#### Appendix J RF-TT0484 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name METAL/TRU HQ ID RF-W109 Inventory Date 9/30/2002 СН Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors** Waste Material Parameters Final Form Radionuclides

Source: Other/Multiple Sources Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 9.8    | 0.0   | 9.8   |
|                      | As-Generated Total | 9.8    | 0.0   | 9.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 9.8    | 0.0   | 9.8   |
|                    | Final Form Total | 9.8    | 0.0   | 9.8   |

| Average<br>Density<br>(kg/m3) |
|-------------------------------|
| 8.59                          |
| 0.00                          |
| 121.29                        |
| 38.82                         |
| 12.89                         |
| 0.00                          |
| 10.36                         |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 138.57                        |
| 20.74                         |
| 0.00                          |
| 0.00                          |
|                               |

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.89E-01                            |  |  |  |
| Np-237                   | 1.77E-06                            |  |  |  |
| Pu-238                   | 5.67E-02                            |  |  |  |
| Pu-239                   | 1.33E+00                            |  |  |  |
| Pu-240                   | 3.04E-01                            |  |  |  |
| Pu-241                   | 4.36E+00                            |  |  |  |
| Pu-242                   | 3.84E-05                            |  |  |  |
| Th-229                   | 4.02E-14                            |  |  |  |
| Th-230                   | 1.34E-09                            |  |  |  |
| Th-232                   | 3.21E-17                            |  |  |  |
| U-233                    | 7.61E-11                            |  |  |  |
| U-234                    | 1.34E-05                            |  |  |  |
| U-235                    | 8.84E-07                            |  |  |  |
| U-236                    | 1.08E-07                            |  |  |  |
| U-238                    | 5.42E-05                            |  |  |  |

**Waste Stream Description** 

Classified non-nuclear material non-metal shapes.

**Management Comments** 

#### Appendix J RF-TT0485 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name METAL/TRU HQ ID RF-W109 Inventory Date 9/30/2002 СН Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002 Local ID None Handling

**Final Waste Form Descriptors** 

Source: Other/Multiple Sources Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 5.4    | 0.0   | 5.4   |
|                      | As-Generated Total | 5.4    | 0.0   | 5.4   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 5.4    | 0.0   | 5.4   |
|                    |        |       |       |

Final Form Total 5.4 0.0 5.4

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 35.32                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.96                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 3.37E-02                            |  |  |  |
| Np-237                   | 1.10E-07                            |  |  |  |
| Pu-238                   | 6.32E-03                            |  |  |  |
| Pu-239                   | 1.48E-01                            |  |  |  |
| Pu-240                   | 3.39E-02                            |  |  |  |
| Pu-241                   | 4.86E-01                            |  |  |  |
| Pu-242                   | 4.28E-06                            |  |  |  |
| Th-229                   | 9.51E-16                            |  |  |  |
| Th-230                   | 5.55E-09                            |  |  |  |
| Th-232                   | 3.57E-18                            |  |  |  |
| U-233                    | 2.64E-12                            |  |  |  |
| U-234                    | 5.15E-05                            |  |  |  |
| U-235                    | 5.94E-06                            |  |  |  |
| U-236                    | 1.21E-08                            |  |  |  |
| U-238                    | 4.59E-04                            |  |  |  |

**Waste Stream Description** 

Scrap D-38 classified metal shapes.

**Management Comments** 

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name METAL/TRU Inventory Date 9/30/2002 HQ ID RF-W109 СН Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors** Waste Material Parameters Final Form Radionuclides Category: Defense TRU Waste Source: Other/Multiple Sources

#### Waste Volume Detail (m3)

Waste Stream ID:

**RF-TT0486** 

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 14.4   | 0.0   | 14.4  |
| As-Generated Total   | 14.4   | 0.0   | 14.4  |
|                      |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 14.4   | 0.0   | 14.4  |
|                    | Final Form Total | 14.4   | 0.0   | 14.4  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 368.19                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 16.23                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 15.43                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides            |  |  |  |  |
|-------------------------------------|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| 7.48E-02                            |  |  |  |  |
| 4.58E-07                            |  |  |  |  |
| 1.41E-02                            |  |  |  |  |
| 3.31E-01                            |  |  |  |  |
| 7.57E-02                            |  |  |  |  |
| 1.09E+00                            |  |  |  |  |
| 9.58E-06                            |  |  |  |  |
| 8.34E-15                            |  |  |  |  |
| 1.73E-09                            |  |  |  |  |
| 7.99E-18                            |  |  |  |  |
| 1.69E-11                            |  |  |  |  |
| 1.63E-05                            |  |  |  |  |
| 1.83E-06                            |  |  |  |  |
| 2.69E-08                            |  |  |  |  |
| 1.42E-04                            |  |  |  |  |
|                                     |  |  |  |  |

**Waste Stream Description** 

Classified tooling.

**Management Comments** 

# RF-TT0487 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Combustibles/TRU **HQ ID** RF-W101 Inventory Date 9/30/2002 Final Waste Form Combustible Activity Concentrations Decayed to CY 2002 Local ID None Handling CH Waste Matrix Code S5390 **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: Other/Multiple Sources Defense TRU Waste Average **Typical** Category: Concentration Density Material Parameter (kg/m3) Isotope (Ci/m3) Waste Volume Detail (m3) Iron-Base Metal/Alloys Am-241 2.26E+00 1.85 As-Generated Volumes Aluminum-Base Metal/Alloys 0.00 Np-237 1.98E-05 ContainerType Stored Proj. Total Other Metal/Alloys 0.00 Pu-238 2.45E-01 Drum / 55 gallon 0.6 1.0 1.7 Other Inorganic Materials 10.50 Pu-239 6.06E+00 0.6 1.0 1.7 **As-Generated Total** 1.38E+00 Cellulosics 0.00 Pu-240 Rubber 0.00 Pu-241 1.78E+01 **Final Form Volumes** Plastics 120.69 Pu-242 1.69E-04 Stored ContainerType Proj. Total Solidified, Inorganic Matrix Th-229 4.18E-13 0.00 55 Gallon Drum 0.6 1.0 1.7 Cement (Solidified) 0.00 Th-230 1.90E-08 Final Form Total 0.6 1.0 1.7 Vitrified 0.00 Th-232 1.46E-16 Solidified, Organic Matrix 0.00 U-233 8.13E-10 Soils 0.00 U-234 1.81E-04 Packaging Material, Steel 138.56 U-235 5.66E-06 Packaging Material, Plastic 32.30 U-236 4.92E-07 Packaging Material, Lead 0.00 U-238 5.48E-06 Packaging Material, Steel Plug 0.00

**Waste Stream Description** 

Classified plastic shapes.

Waste Stream ID:

**Management Comments** 

#### Appendix J RF-TT0489 Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name METAL/TRU HQ ID RF-W109 Inventory Date 9/30/2002 СН Final Waste Form Uncategorized Metal Waste Matrix Code S5111 Activity Concentrations Decayed to CY 2002 Local ID None Handling

**Final Waste Form Descriptors** 

Source: Other/Multiple Sources Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 9.4    | 0.0   | 9.4   |
|                      | As-Generated Total | 9.4    | 0.0   | 9.4   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 9.4    | 0.0   | 9.4   |
|                    |        |       |       |

Final Form Total 9.4 0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 211.46                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 10.31                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.57                        |
| Packaging Material, Plastic    | 17.18                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.59E-01                            |
| Np-237  | 1.33E-06                            |
| Pu-238  | 3.31E-02                            |
| Pu-239  | 7.74E-01                            |
| Pu-240  | 1.77E-01                            |
| Pu-241  | 2.55E+00                            |
| Pu-242  | 2.24E-05                            |
| Th-229  | 2.82E-14                            |
| Th-230  | 1.22E-09                            |
| Th-232  | 1.87E-17                            |
| U-233   | 5.45E-11                            |
| U-234   | 1.19E-05                            |
| U-235   | 1.25E-06                            |
| U-236   | 6.31E-08                            |
| U-238   | 9.61E-05                            |

**Waste Stream Description** Classified beryllium shapes.

**Management Comments** 

# Waste Stream ID: RF-TT0490 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W120 Stream Name Filters & media/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Box / Metal          | 3.2    | 0.0   | 3.2   |
| Box / Wood           | 34.9   | 0.0   | 34.9  |
| Drum / 55 gallon     | 7.3    | 0.0   | 7.3   |
| Standard Waste Box   | 83.6   | 81.7  | 165.3 |
| As-Generated Total   | 128.9  | 81.7  | 210.6 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 7.3    | 0.0   | 7.3   |
| Standard Waste Box |                  | 122.8  | 81.3  | 204.1 |
|                    | Final Form Total | 130 1  | 81.3  | 211 4 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.09                          |
| Aluminum-Base Metal/Alloys     | 18.33                         |
| Other Metal/Alloys             | 10.86                         |
| Other Inorganic Materials      | 11.80                         |
| Cellulosics                    | 4.55                          |
| Rubber                         | 12.94                         |
| Plastics                       | 6.81                          |
| Solidified, Inorganic Matrix   | 3.85                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 42.54                         |
| Packaging Material, Steel      | 152.24                        |
| Packaging Material, Plastic    | 3.35                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.61E-01                            |
| Np-237  | 2.33E-06                            |
| Pu-238  | 6.52E-02                            |
| Pu-239  | 1.55E+00                            |
| Pu-240  | 3.55E-01                            |
| Pu-241  | 4.76E+00                            |
| Pu-242  | 4.24E-05                            |
| Th-229  | 5.12E-14                            |
| Th-230  | 7.69E-10                            |
| Th-232  | 3.74E-17                            |
| U-233   | 9.81E-11                            |
| U-234   | 8.27E-06                            |
| U-235   | 4.15E-07                            |
| U-236   | 1.26E-07                            |
| U-238   | 3.50E-05                            |

**Waste Stream Description** 

**Management Comments** 

Plenum HEPA filters.

# RF-TT0491 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Filters & media/TRU Inventory Date 9/30/2002 HQ ID RF-W120 СН Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002 Local ID None Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |            |       |       |  |
|----------------------|------------|-------|-------|--|
| ContainerType        | Stored     | Proj. | Total |  |
| Box / Misc.          | 6.3        | 0.0   | 6.3   |  |
| Box / Wood           | 6.3        | 0.0   | 6.3   |  |
| Drum / 55 gallon     | 15.8       | 2.9   | 18.7  |  |
| As-Generated         | Total 28.5 | 2.9   | 31.4  |  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 15.8   | 2.9   | 18.8  |
| Standard Waste Box | 7.6    | 0.0   | 7.6   |
|                    |        |       |       |

Final Form Total

23.4

2.9

26.3

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 9.55                          |
| Aluminum-Base Metal/Alloys     | 13.46                         |
| Other Metal/Alloys             | 3.34                          |
| Other Inorganic Materials      | 16.57                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.96                          |
| Plastics                       | 20.80                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 142.50                        |
| Packaging Material, Plastic    | 18.18                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.75E-02                            |
| Np-237  | 7.77E-07                            |
| Pu-238  | 8.99E-03                            |
| Pu-239  | 2.12E-01                            |
| Pu-240  | 4.85E-02                            |
| Pu-241  | 6.74E-01                            |
| Pu-242  | 5.98E-06                            |
| Th-229  | 1.72E-14                            |
| Th-230  | 3.65E-10                            |
| Th-232  | 5.12E-18                            |
| U-233   | 3.29E-11                            |
| U-234   | 3.54E-06                            |
| U-235   | 2.76E-07                            |
| U-236   | 1.73E-08                            |
| U-238   | 9.18E-10                            |

**Waste Stream Description** 

Plenum prefilters.

**Management Comments** 

### Waste Stream ID: RF-TT0492

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W120 Stream Name Filters and Media/TRU                        |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste Form Filter                       | Waste Matrix Code S5410      | Activity Cor                  |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Multiple  Waste Volume Detail (m3) | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.19E-01                            |
| ContainerType Stored Proj. Total                                       | Aluminum-Base Metal/Alloys   | 56.12                         | Np-237     | 2.70E-06                            |
| Standard Waste Box 1.9 0.0 1.9   | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.92E-02                            |
|  | Other Inorganic Materials    | 18.65                         | Pu-239     | 1.85E+00                            |
| As-Generated Total 1.9 0.0 1.9   | Cellulosics                  | 4.31                          | Pu-240     | 4.24E-01                            |
| Final Form Volumes   | Rubber                       | 56.12                         | Pu-241     | 6.09E+00                            |
| ContainerType Stored Proj. Total                                       | Plastics                     | 0.00                          | Pu-242     | 5.37E-05                            |
| Standard Waste Box 1.9 0.0 1.9   | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 5.85E-14                            |
|  | Cement (Solidified)          | 0.00                          | Th-230     | 1.55E-10                            |
| Final Form Total 1.9 0.0 1.9   | Vitrified                    | 0.00                          | Th-232     | 4.48E-17                            |
|  | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.12E-10                            |
|  | Soils                        | 0.00                          | U-234      | 2.83E-06                            |
|  | Packaging Material, Steel    | 152.90                        | U-235      | 2.19E-08                            |
|  | Packaging Material, Plastic  | 2.21                          | U-236      | 1.51E-07                            |
|  | Packaging Material, Lead     | 0.00                          | U-238      | 9.72E-14                            |

#### **Waste Stream Description**

"HEPA filters (24 x 24), acid contaminated, are large HEPA filters used in the filter plenums of buildings that contain gloveboxes with atmospheres that could cause the filters to be contaminated with acids or bases used in chemical processing. The materials of construction consist of a filter medium contained within a wood frame. Older medium consisted of glass fiber with a small percentage of asbestos and a corrugated aluminum foil. Newer medium is constructed of glass and aromatic polyamide fibers (Nomex) and aluminum alloy metal. Wood filter frames are constructed of %-inch fire retardant exterior grade plywood, or particle board."

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Waste Stream currently exists in the TWBIR as a mixed waste or residue, (i.e., RF-MRXXXX or RF-MTXXXX), but is being re-characterized as non-mixed waste.

# RF-TT0523A Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W107 Stream Name Soil and Cleanup Debris/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3219 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 36.82                         |
| Aluminum-Base Metal/Alloys     | 6.86                          |
| Other Metal/Alloys             | 12.60                         |
| Other Inorganic Materials      | 21.10                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 1.53                          |
| Plastics                       | 30.65                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 18.40                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.56                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 3.52E+00                            |  |  |  |
| Np-237                   | 3.05E-05                            |  |  |  |
| Pu-238                   | 4.13E-01                            |  |  |  |
| Pu-239                   | 9.69E+00                            |  |  |  |
| Pu-240                   | 2.22E+00                            |  |  |  |
| Pu-241                   | 3.17E+01                            |  |  |  |
| Pu-242                   | 2.80E-04                            |  |  |  |
| Th-229                   | 6.43E-13                            |  |  |  |
| Th-230                   | 3.36E-09                            |  |  |  |
| Th-232                   | 2.34E-16                            |  |  |  |
| U-233                    | 1.25E-09                            |  |  |  |
| U-234                    | 3.84E-05                            |  |  |  |
| U-235                    | 3.26E-05                            |  |  |  |
| U-236                    | 7.89E-07                            |  |  |  |
| U-238                    | 3.78E-05                            |  |  |  |

#### **Waste Stream Description**

Miscellaneous non-hazardous organic solids including excess sample containers. This output contains greater than 50% by volume organic particulates.

#### **Management Comments**

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Soil and Cleanup Debris/TRU HQ ID RF-W107 Inventory Date 9/30/2002 N/A Final Waste Form Solidified Organics Waste Matrix Code S3900 Activity Concentrations Decayed to CY 2002 Local ID Handling CH **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: Decontamination and Decommissioning Defense TRU Waste Average Category: Density Material Parameter (kg/m3)

#### Waste Volume Detail (m3)

RF-TT0523B

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |
| Final Farm Values a  |                    |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |

## Cellulosics Rubber Plastics Solidified, Inorganic Matrix

Packaging Material, Lead

Packaging Material, Steel Plug

Aluminum-Base Metal/Alloys

Iron-Base Metal/Alloys

Other Metal/Alloys

#### Other Inorganic Materials 21.10 0.00 1.53 30.65 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 18.40 Soils 0.00 Packaging Material, Steel 138.56 Packaging Material, Plastic 32.46

36.82

6.86

12.60

0.00

0.00

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.52E+00                            |
| Np-237  | 3.05E-05                            |
| Pu-238  | 4.13E-01                            |
| Pu-239  | 9.69E+00                            |
| Pu-240  | 2.22E+00                            |
| Pu-241  | 3.17E+01                            |
| Pu-242  | 2.80E-04                            |
| Th-229  | 6.43E-13                            |
| Th-230  | 3.36E-09                            |
| Th-232  | 2.34E-16                            |
| U-233   | 1.25E-09                            |
| U-234   | 3.84E-05                            |
| U-235   | 3.26E-05                            |
| U-236   | 7.89E-07                            |
| U-238   | 3.78E-05                            |

#### **Waste Stream Description**

Miscellaneous non-hazardous organic solids including excess sample containers. This output contains greater than 50% by volume homogeneous solids.

#### **Management Comments**

3.36E-09

2.34E-16

1.25E-09

3.84E-05

3.26E-05

7.89E-07

3.78E-05

### Waste Stream ID: RF-TT0523C

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | VASILL    | DAJLLI     | INC IINVLIV  | TORT WASTE FROTIEL           |                               |            |   |
|--|-----------|------------|--------------|------------------------------|-------------------------------|------------|---|
| HQ ID RF-W107 Stream Name Soil and Cleanup Debris/ Local ID N/A Handling CH Final Wa |           | Heteroger  | neous Debris | Waste Matrix Code S5420      | Activity C                    |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors   |           |            |              | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3)      | and Decom | nmissionir | ng           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |            |              | Iron-Base Metal/Alloys       | 36.82                         | Am-241     | 3.52E+00                                |
| ContainerType  | Stored    | Proj.      | Total        | Aluminum-Base Metal/Alloys   | 6.86                          | Np-237     | 3.05E-05                                |
| Drum / 55 gallon   | 1.5       | •          |              | Other Metal/Alloys           | 12.60                         | Pu-238     | 4.13E-01                                |
|  | l         |            |              | Other Inorganic Materials    | 21.10                         | Pu-239     | 9.69E+00                                |
| As-Generated Total   | 1.5       | 0.0        | 1.5          | Cellulosics                  | 0.00                          | Pu-240     | 2.22E+00                                |
| Final Form Volumes   |           |            | 1            | Rubber                       | 1.53                          | Pu-241     | 3.17E+01                                |
| ContainerType  | Stored    | Proj.      | Total        | Plastics                     | 30.65                         | Pu-242     | 2.80E-04                                |
| 55 Gallon Drum   | 1.5       |            |              | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 6.43E-13                                |

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

18.40

0.00

138.56

32.46

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## Waste Stream Description

"Miscellaneous non-hazardous organic solids including granular activated carbon and charcoal from filter plenums, strippable coating with non-hazardous fixative, and excess sample containers. This output contains greater than 50% by volume inorganic debris. "

1.5

1.5

**Final Form Total** 

0.0

#### **Management Comments**

Waste Stream ID: RF-TT0523D

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W107 Stream Name Soil and Cleanup Debris/TRU  Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Co |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|------------|---|
| Final Waste Form Descriptors Waste Material Parameters  | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Decontamination and Decommissioning  Waste Volume Detail (m3)  Average Density (kg/m3)                                | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes Iron-Base Metal/Alloys 36.82   | Am-241     | 3.52E+00                                |
| ContainerType Stored Proj. Total Aluminum-Base Metal/Alloys 6.86  | Np-237     | 3.05E-05                                |
| Drum / 55 gallon 1.5 0.0 1.5 Other Metal/Alloys 12.60   | Pu-238     | 4.13E-01                                |

1.5

| Final Form Volumes |       |     |       |       |
|--------------------|-------|-----|-------|-------|
| ContainerType      | Store | ed  | Proj. | Total |
| 55 Gallon Drum     |       | 1.5 | 0.0   | 1.5   |
|                    |       |     |       |       |

**As-Generated Total** 

|                  | 1.5 | 0.0 | 1.5 |
|------------------|-----|-----|-----|
| -                |     |     |     |
| Final Form Total | 1.5 | 0.0 | 1.5 |

1.5

0.0

#### Other Inorganic Materials 21.10 0.00 Cellulosics 1.53 Rubber Plastics 30.65 Solidified, Inorganic Matrix 0.00 Cement (Solidified) 0.00 0.00 Vitrified Solidified, Organic Matrix 18.40 Soils 0.00 Packaging Material, Steel 138.56 Packaging Material, Plastic 32.46 Packaging Material, Lead 0.00 0.00 Packaging Material, Steel Plug

#### Pu-239 9.69E+00 Pu-240 2.22E+00 3.17E+01 Pu-241 Pu-242 2.80E-04 Th-229 6.43E-13 Th-230 3.36E-09 Th-232 2.34E-16 U-233 1.25E-09 U-234 3.84E-05 U-235 3.26E-05 U-236 7.89E-07

3.78E-05

U-238

#### **Waste Stream Description**

"Miscellaneous non-hazardous organic solids including granular activated carbon and charcoal from filter plenums, strippable coating with non-hazardous fixative, and excess sample containers. This output contains greater than 50% by volume organic debris.

#### **Management Comments**

# Waste Stream ID: RF-TT0523E Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W107 Stream Name Soil and Cleanup Debris/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 36.82                         |
| Aluminum-Base Metal/Alloys     | 6.86                          |
| Other Metal/Alloys             | 12.60                         |
| Other Inorganic Materials      | 21.10                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 1.53                          |
| Plastics                       | 30.65                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 18.40                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.56                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 3.52E+00                            |  |  |
| Np-237                   | 3.05E-05                            |  |  |
| Pu-238                   | 4.13E-01                            |  |  |
| Pu-239                   | 9.69E+00                            |  |  |
| Pu-240                   | 2.22E+00                            |  |  |
| Pu-241                   | 3.17E+01                            |  |  |
| Pu-242                   | 2.80E-04                            |  |  |
| Th-229                   | 6.43E-13                            |  |  |
| Th-230                   | 3.36E-09                            |  |  |
| Th-232                   | 2.34E-16                            |  |  |
| U-233                    | 1.25E-09                            |  |  |
| U-234                    | 3.84E-05                            |  |  |
| U-235                    | 3.26E-05                            |  |  |
| U-236                    | 7.89E-07                            |  |  |
| U-238                    | 3.78E-05                            |  |  |
|                          | -                                   |  |  |

#### **Waste Stream Description**

"Miscellaneous non-hazardous organic solids including granular activated carbon and charcoal from filter plenums, strippable coating with non-hazardous fixative, and excess sample containers. This output contains at least 50% by volume debris waste. "

#### **Management Comments**

# RF-TT0532A Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W107 Stream Name Soil and Cleanup Debris/TRU Inventory Date 9/30/2002
Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |   |       |       |       |
|----------------------|---|-------|-------|-------|
| ContainerType        | S | tored | Proj. | Total |
| 8801 Can             |   | 0.0   | 0.0   | 0.0   |
| 8802 Can             |   | 0.0   | 0.0   | 0.0   |
| Drum / 55 gallon     |   | 14.1  | 0.8   | 15.0  |
|                      |   |       |       |       |

| As-Generated Total | 14.2 | 0.8 | 15.0 |
|--------------------|------|-----|------|
|                    |      |     |      |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 14.8   | 0.8   | 15.6  |

| Final Form Total 14.8 0.8 15.6 |
|--------------------------------|
|--------------------------------|

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.51                        |
| Packaging Material, Plastic    | 29.39                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes    |          |  |
|-----------------------------|----------|--|
| Typical Concentrati (Ci/m3) |          |  |
| Am-241                      | 8.56E+00 |  |
| Np-237                      | 2.18E-04 |  |
| Pu-238                      | 6.12E-01 |  |
| Pu-239                      | 1.47E+01 |  |
| Pu-240                      | 3.35E+00 |  |
| Pu-241                      | 4.68E+01 |  |
| Pu-242                      | 4.88E-04 |  |
| Th-229                      | 5.74E-12 |  |
| Th-230                      | 8.83E-09 |  |
| Th-232                      | 3.53E-16 |  |
| U-233                       | 1.05E-08 |  |
| U-234                       | 9.27E-05 |  |
| U-235                       | 2.78E-06 |  |
| U-236                       | 1.19E-06 |  |
| U-238                       | 4.60E-05 |  |

### **Waste Stream Description**

Miscellaneous non-hazardous inorganic solids including excess sample containers. This output contains greater than 50% by volume inorganic particulates.

#### **Management Comments**

# RF-TT0532B Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W107 Stream Name Soil and Cleanup Debris/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Decontamination and Decommissioning

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |       |                    |
|----------------------|-------|--------------------|
| Stored               | Proj. | Total              |
| 0.0                  | 0.0   | 0.0                |
| 0.0                  | 0.0   | 0.0                |
| 14.1                 | 0.8   | 15.0               |
|                      | 0.0   | 0.0 0.0<br>0.0 0.0 |

|  | As-Generated Total | 14.2 | 0.8 | 15.0 |
|--|--------------------|------|-----|------|
|--|--------------------|------|-----|------|

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 14.8   | 0.8   | 15.6  |

| Final Form Total | 14.8 | 0.8 | 15.6 |
|------------------|------|-----|------|

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.51                        |
| Packaging Material, Plastic    | 29.39                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.56E+00                            |
| Np-237  | 2.18E-04                            |
| Pu-238  | 6.12E-01                            |
| Pu-239  | 1.47E+01                            |
| Pu-240  | 3.35E+00                            |
| Pu-241  | 4.68E+01                            |
| Pu-242  | 4.88E-04                            |
| Th-229  | 5.74E-12                            |
| Th-230  | 8.83E-09                            |
| Th-232  | 3.53E-16                            |
| U-233   | 1.05E-08                            |
| U-234   | 9.27E-05                            |
| U-235   | 2.78E-06                            |
| U-236   | 1.19E-06                            |
| U-238   | 4.60E-05                            |

#### **Waste Stream Description**

"Miscellaneous non-hazardous inorganic solids including desiccants, molecular sieves, salts, sand, gravel, zeolites, kaolin, etc."

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W118 Stream Name Miscellaneous Liquids/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3129 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

RF-TT0541

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 8804 Can             |                           | 0.0    | 0.0   | 0.0   |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 0.0    | 0.0   | 0.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.16                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 8.59                          |
| Solidified, Inorganic Matrix   | 10.50                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.43                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucides             |  |  |
|-------------------------------------|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |
| 5.73E-01                            |  |  |
| 1.23E-06                            |  |  |
| 2.88E-01                            |  |  |
| 6.75E+00                            |  |  |
| 1.54E+00                            |  |  |
| 2.22E+01                            |  |  |
| 1.96E-04                            |  |  |
| 6.45E-15                            |  |  |
| 5.64E-10                            |  |  |
| 1.63E-16                            |  |  |
| 2.23E-11                            |  |  |
| 1.03E-05                            |  |  |
| 7.99E-08                            |  |  |
| 5.50E-07                            |  |  |
| 3.54E-13                            |  |  |
|                                     |  |  |

#### **Waste Stream Description**

As result of the shutdown of plutonium operations at RFP in November, 1989, several hundred plastic bottles and several tanks of process liquids remained in storage.

#### **Management Comments**

## Waste Stream ID: RF-TT0545

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W112 Stream Name Solidified Lab Waste/TRU                              | J         |            |           |                                |                               | Invent     | ory Date 9/30/2002                  |
|---|-----------|------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form  | norganic N | Non-Metal | Waste Matrix Code S3160        | Activity Cor                  |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination a  Waste Volume Detail (m3) | and Decom | nmissionin | g         | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |           | Iron-Base Metal/Alloys         | 0.96                          | Am-241     | 6.37E-02                            |
| ContainerType   | Stored    | Proj.      | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 1.37E-07                            |
| Drum / 55 gallon  | 0.4       | 0.0        |           | Other Metal/Alloys             | 0.00                          | Pu-238     | 3.21E-02                            |
|   | <u> </u>  |            |           | Other Inorganic Materials      | 23.87                         | Pu-239     | 7.51E-01                            |
| As-Generated Total  | 0.4       | 0.0        | 0.4       | Cellulosics                    | 0.00                          | Pu-240     | 1.72E-01                            |
| Final Form Volumes  |           |            |           | Rubber                         | 0.00                          | Pu-241     | 2.47E+00                            |
| ContainerType   | Stored    | Proj.      | Total     | Plastics                       | 17.18                         | Pu-242     | 2.18E-05                            |
| 55 Gallon Drum  | 0.4       | 0.0        | 0.4       | Solidified, Inorganic Matrix   | 413.85                        | Th-229     | 7.18E-16                            |
| oo canon Brain  | 0.1       | 0.0        | 0.1       | Cement (Solidified)            | 0.00                          | Th-230     | 6.28E-11                            |
| Final Form Total  | 0.4       | 0.0        | 0.4       | Vitrified                      | 0.00                          | Th-232     | 1.81E-17                            |
|   |           |            |           | Solidified, Organic Matrix     | 0.00                          | U-233      | 2.48E-12                            |
|   |           |            |           | Soils                          | 0.00                          | U-234      | 1.15E-06                            |
|   |           |            |           | Packaging Material, Steel      | 138.43                        | U-235      | 8.89E-09                            |
|   |           |            |           | Packaging Material, Plastic    | 23.87                         | U-236      | 6.12E-08                            |
|   |           |            |           | Packaging Material, Lead       | 0.00                          | U-238      | 3.94E-14                            |
|   |           |            |           | Packaging Material, Steel Plug | 0.00                          |            |                                     |
|   |           |            |           |                                |                               |            |                                     |

## **Waste Stream Description**

Non-hazardous solid excess chemicals contaminated with plutonium to TRU concentrations. Chemicals are expired or off-specification in some manner and are therefore not useable.

## **Management Comments**

## Waste Stream ID: RF-TT0601 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name N/A **HQ ID** RF-TT0601 Inventory Date 9/30/2002 Final Waste Form Inorganic Non-Metal Activity Concentrations Decayed to CY 2002 Local ID N/A Handling CH Waste Matrix Code S5123 **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Defense TRU Waste Source: N/A Average **Typical** Category: Density Concentration Material Parameter (kg/m3) Isotope (Ci/m3) Waste Volume Detail (m3) Iron-Base Metal/Alloys Am-241 5.84E+00 6.70 As-Generated Volumes Aluminum-Base Metal/Alloys 0.00 Np-237 7.50E-05 ContainerType Stored Proj. Total Other Metal/Alloys 90.70 Pu-238 8.52E-01 POC / 55 gallon 2.7 0.0 2.7 Other Inorganic Materials 113.57 Pu-239 2.08E+01 2.7 0.0 2.7 **As-Generated Total** 102.83 Cellulosics Pu-240 4.82E+00 Rubber 0.00 Pu-241 6.16E+01 **Final Form Volumes** Plastics 36.16 Pu-242 5.71E-04 Stored ContainerType Proj. Total Th-229 1.78E-12 Solidified, Inorganic Matrix 0.00 55 Gallon POCs 2.7 0.0 2.7 Cement (Solidified) 0.00 Th-230 2.76E-09 2.7 Final Form Total 2.7 0.0 Vitrified 0.00 Th-232 5.09E-16 Solidified, Organic Matrix 0.00 U-233 3.34E-09 Soils 0.00 U-234 4.06E-05 Packaging Material, Steel 525.22 U-235 5.73E-07 Packaging Material, Plastic U-236 1.72E-06 23.87 Packaging Material, Lead 0.00 U-238 2.89E-09

Packaging Material, Steel Plug

0.00

**Waste Stream Description** 

N/A

## **Management Comments**

Waste Stream currently exists in the TWBIR as a residue, (i.e., RF-TRXXXX), but is being revised to transuranic, (i.e., RF-TTXXXX).

## RF-TT0802 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W112 Stream Name Soliified Lab Waste/TRU Inventory Date 9/30/2002

Local ID IDC 802 Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Pollution Control or Waste Treatment Process

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 53.5   | 1.0   | 54.5  |
| Drum / 85 gallon     | 1.3    | 0.0   | 1.3   |
| As-Generated Total   | 54.7   | 1.0   | 55.8  |

| Stored | Proj. | Total    |
|--------|-------|----------|
| 53.6   | 1.0   | 54.6     |
| 1.3    | 0.0   | 1.3      |
|        | 53.6  | 53.6 1.0 |

**Final Form Total** 54.9 1.0 55.9

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1235.99                       |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.18                         |
| Solidified, Inorganic Matrix   | 1205.29                       |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 137.36                        |
| Packaging Material, Plastic    | 23.94                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 3.35E+01                            |  |  |
| Np-237                   | 1.20E-04                            |  |  |
| Pu-238                   | 3.32E+00                            |  |  |
| Pu-239                   | 7.82E+01                            |  |  |
| Pu-240                   | 1.78E+01                            |  |  |
| Pu-241                   | 2.56E+02                            |  |  |
| Pu-242                   | 2.25E-03                            |  |  |
| Th-229                   | 1.11E-12                            |  |  |
| Th-230                   | 6.50E-09                            |  |  |
| Th-232                   | 1.88E-15                            |  |  |
| U-233                    | 3.00E-09                            |  |  |
| U-234                    | 1.19E-04                            |  |  |
| U-235                    | 9.69E-04                            |  |  |
| U-236                    | 6.33E-06                            |  |  |
| U-238                    | 4.18E-06                            |  |  |

**Waste Stream Description** 

IDC 802 is a cemented final waste form.

**Management Comments** 

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W122 Stream Name Organic Resins/TRU Inventory Date 9/30/2002
Local ID None Handling CH Final Waste Form Solidified Organics Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

RF-TT0809

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 2.5    | 1.0   | 3.5   |
|                      | As-Generated Total | 2.5    | 1.0   | 3.5   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 2.5    | 1.0   | 3.5   |
|                    |        |       |       |

Final Form Total

2.5

1.0

3.5

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.27                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 4.77                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 25.99                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 121.07                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.45                        |
| Packaging Material, Plastic    | 25.89                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 3.35E+01                            |  |  |
| Np-237                   | 1.20E-04                            |  |  |
| Pu-238                   | 3.32E+00                            |  |  |
| Pu-239                   | 7.82E+01                            |  |  |
| Pu-240                   | 1.78E+01                            |  |  |
| Pu-241                   | 2.56E+02                            |  |  |
| Pu-242                   | 2.25E-03                            |  |  |
| Th-229                   | 1.11E-12                            |  |  |
| Th-230                   | 6.50E-09                            |  |  |
| Th-232                   | 1.88E-15                            |  |  |
| U-233                    | 3.00E-09                            |  |  |
| U-234                    | 1.19E-04                            |  |  |
| U-235                    | 9.69E-04                            |  |  |
| U-236                    | 6.33E-06                            |  |  |
| U-238                    | 4.18E-06                            |  |  |

## **Waste Stream Description**

It consists of unleached resin (IDC 430) and leached resin (IDC 431).

## **Management Comments**

# Waste Stream ID: RF-TT0821 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Other/Multiple Sources

## Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 1/2 Wood Box         | 23.9   | 0.0   | 23.9  |
| Box / Wood           | 123.6  | 0.0   | 123.6 |
| Drum / 55 gallon     | 50.5   | 2.1   | 52.6  |
| Standard Waste Box   | 11.4   | 15.2  | 26.6  |

| As-Generated Total | 209.4 | 17.3 | 226. |
|--------------------|-------|------|------|
| ·                  |       |      |      |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 50.7   | 2.1   | 52.7  |
| Standard Waste Box | 160.6  | 15.1  | 175.8 |
|                    |        |       |       |

**Final Form Total** 211.3 17.2 228.5

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.01                          |
| Aluminum-Base Metal/Alloys     | 1.35                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1.90                          |
| Cellulosics                    | 6.10                          |
| Rubber                         | 8.60                          |
| Plastics                       | 5.30                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.91                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 149.37                        |
| Packaging Material, Plastic    | 8.05                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.23E+00                            |
| Np-237  | 1.06E-05                            |
| Pu-238  | 2.29E-01                            |
| Pu-239  | 5.80E+00                            |
| Pu-240  | 1.33E+00                            |
| Pu-241  | 1.44E+01                            |
| Pu-242  | 1.36E-04                            |
| Th-229  | 2.25E-13                            |
| Th-230  | 7.39E-08                            |
| Th-232  | 1.40E-16                            |
| U-233   | 4.36E-10                            |
| U-234   | 6.88E-04                            |
| U-235   | 2.33E-05                            |
| U-236   | 4.74E-07                            |
| U-238   | 6.04E-07                            |

## **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

## **Management Comments**

# Waste Stream ID: RF-TT0822 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Other/Multiple Sources

## Waste Volume Detail (m3)

| nerated Volumes |        |       |       |
|-----------------|--------|-------|-------|
| nerType         | Stored | Proj. | Total |
| Vood            | 12.7   | 0.0   | 12.7  |
| 55 gallon       | 100.7  | 40.8  | 141.4 |
| 85 gallon       | 0.3    | 0.0   | 0.3   |
| rd Waste Box    | 20.9   | 20.9  | 41.8  |
| TO TO DOX       | 20.0   | 20.0  |       |

| <b>As-Generated Total</b> | 134.6 | 61.7 | 196.2 |
|---------------------------|-------|------|-------|

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 100.9  | 40.9  | 141.7 |
| 85 Gallon Drum     | 0.3    | 0.0   | 0.3   |
| Standard Waste Box | 28.4   | 20.8  | 49.1  |
|                    | 400.0  | 24.0  | 404.0 |

**Final Form Total** 129.6 61.6 191.2

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.43                          |
| Aluminum-Base Metal/Alloys     | 1.05                          |
| Other Metal/Alloys             | 1.06                          |
| Other Inorganic Materials      | 33.40                         |
| Cellulosics                    | 10.68                         |
| Rubber                         | 10.05                         |
| Plastics                       | 20.23                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.21                          |
| Soils                          | 10.21                         |
| Packaging Material, Steel      | 142.06                        |
| Packaging Material, Plastic    | 21.73                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.41E+00                            |
| Np-237  | 1.45E-05                            |
| Pu-238  | 1.70E-01                            |
| Pu-239  | 4.16E+00                            |
| Pu-240  | 9.46E-01                            |
| Pu-241  | 1.22E+01                            |
| Pu-242  | 1.18E-04                            |
| Th-229  | 3.22E-13                            |
| Th-230  | 7.60E-08                            |
| Th-232  | 9.98E-17                            |
| U-233   | 6.16E-10                            |
| U-234   | 7.08E-04                            |
| U-235   | 2.26E-05                            |
| U-236   | 3.37E-07                            |
| U-238   | 2.27E-06                            |

## **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

## **Management Comments**

## RF-TT0823 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

0.2

0.0

0.2

HQ ID RF-W100 Stream Name Cemented Sludge/TRU Inventory Date 9/30/2002
Local ID IDC 823 Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Pollution Control or Waste Treatment Process

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 36.82                         |
| Aluminum-Base Metal/Alloys     | 6.86                          |
| Other Metal/Alloys             | 12.60                         |
| Other Inorganic Materials      | 21.10                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 1.53                          |
| Plastics                       | 30.65                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 18.40                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.56                        |
| Packaging Material, Plastic    | 32.46                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 3.52E+00                            |  |  |  |
| Np-237                   | 3.05E-05                            |  |  |  |
| Pu-238                   | 4.13E-01                            |  |  |  |
| Pu-239                   | 9.69E+00                            |  |  |  |
| Pu-240                   | 2.22E+00                            |  |  |  |
| Pu-241                   | 3.17E+01                            |  |  |  |
| Pu-242                   | 2.80E-04                            |  |  |  |
| Th-229                   | 6.43E-13                            |  |  |  |
| Th-230                   | 3.36E-09                            |  |  |  |
| Th-232                   | 2.34E-16                            |  |  |  |
| U-233                    | 1.25E-09                            |  |  |  |
| U-234                    | 3.84E-05                            |  |  |  |
| U-235                    | 3.26E-05                            |  |  |  |
| U-236                    | 7.89E-07                            |  |  |  |
| U-238                    | 3.78E-05                            |  |  |  |

## **Waste Stream Description**

This waste consists of cemented miscellaneous sludge (IDC 823)

## **Management Comments**

## Waste Stream ID: RF-TT0824

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W109 Stream Name METAL/TRU   |           |           |            |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-----------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID None Handling CH Final W   | aste Form | Jncategor | ized Metal | Waste Matrix Code S5111      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ources    |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |           |            | Iron-Base Metal/Alloys       | 278.52                        | Am-241     | 5.50E-01                            |
| ContainerType   | Stored    | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 36.18                         | Np-237     | 5.48E-06                            |
| 1/2 Wood Box  | 8.0       | 0.0       |            | Other Metal/Alloys           | 14.74                         | Pu-238     | 9.80E-02                            |
| Box / Metal   | 6.3       | 0.0       |            | Other Inorganic Materials    | 5.18                          | Pu-239     | 2.35E+00                            |
| Box / Wood  | 6.3       | 0.0       |            | Cellulosics                  | 6.74                          | Pu-240     | 5.38E-01                            |
| Drum / 55 gallon  | 163.1     | 76.1      | 239.2      | Rubber                       | 4.09                          | Pu-241     | 7.27E+00                            |
| Standard Waste Box  | 323.0     | 273.6     |            | Plastics                     | 11.63                         | Pu-242     | 6.50E-05                            |
| 5.0   |           |           |            | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 1.23E-13                            |
| As-Generated Total  | 506.7     | 349.7     | 856.4      | Cement (Solidified)          | 0.00                          | Th-230     | 5.65E-09                            |
| Final Form Volumes  |           |           |            | Vitrified                    | 0.00                          | Th-232     | 5.68E-17                            |
| ContainerType   | Stored    | Proj.     | Total      | Solidified, Organic Matrix   | 5.89                          | U-233      | 2.34E-10                            |
| 55 Gallon Drum  | 163.4     | 76.3      |            | Soils                        | 0.00                          | U-234      | 5.41E-05                            |
| Standard Waste Box  | 338.3     | 272.2     |            | Packaging Material, Steel    | 148.67                        | U-235      | 2.40E-06                            |
| Statistical Protection  | 300.0     |           | 0.0.0      | Packaging Material Plastic   | 11 54                         | U-236      | 1 92F-07                            |

## **Waste Stream Description**

This waste includes items such as gloveboxes and machinery, and empty containers. Items that are difficult to reduce to a size that would fit in a 55-gal. drum are placed in DOT 7A, Type A metal boxes. These drums are lined with a rigid polyethylene liner, fiberboard liner and several bag liners. The boxes are lined with a fiberboard and PVC liner.

850.2

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

U-238

3.42E-06

Final Form Total

501.7

348.5

## **Management Comments**

## Waste Stream ID: RF-TT0825 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 1/2 Wood Box         |                    | 9.5    | 0.0   | 9.5   |
| Box / Wood           |                    | 63.4   | 0.0   | 63.4  |
| Drum / 55 gallon     |                    | 291.0  | 68.4  | 359.4 |
| Standard Waste Box   |                    | 36.1   | 41.8  | 77.9  |
|                      | As-Generated Total | 400.0  | 110.2 | 510.3 |

| Final Form Volumes |                  |        |       |       |  |  |  |  |  |  |
|--------------------|------------------|--------|-------|-------|--|--|--|--|--|--|
| ContainerType      |                  | Stored | Proj. | Total |  |  |  |  |  |  |
| 55 Gallon Drum     |                  | 291.6  | 68.6  | 360.2 |  |  |  |  |  |  |
| Standard Waste Box |                  | 109.6  | 41.6  | 151.2 |  |  |  |  |  |  |
|                    | Final Form Total | 401.2  | 110.2 | 511.4 |  |  |  |  |  |  |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.31                          |
| Aluminum-Base Metal/Alloys     | 0.55                          |
| Other Metal/Alloys             | 2.00                          |
| Other Inorganic Materials      | 7.35                          |
| Cellulosics                    | 10.31                         |
| Rubber                         | 30.57                         |
| Plastics                       | 122.47                        |
| Solidified, Inorganic Matrix   | 1.95                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 24.24                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 142.69                        |
| Packaging Material, Plastic    | 20.52                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |  |
| Am-241                   | 9.73E-01                            |  |  |  |  |  |  |  |
| Np-237                   | 1.26E-05                            |  |  |  |  |  |  |  |
| Pu-238                   | 1.38E-01                            |  |  |  |  |  |  |  |
| Pu-239                   | 3.46E+00                            |  |  |  |  |  |  |  |
| Pu-240                   | 7.89E-01                            |  |  |  |  |  |  |  |
| Pu-241                   | 9.41E+00                            |  |  |  |  |  |  |  |
| Pu-242                   | 8.77E-05                            |  |  |  |  |  |  |  |
| Th-229                   | 2.99E-13                            |  |  |  |  |  |  |  |
| Th-230                   | 1.41E-08                            |  |  |  |  |  |  |  |
| Th-232                   | 8.32E-17                            |  |  |  |  |  |  |  |
| U-233                    | 5.61E-10                            |  |  |  |  |  |  |  |
| U-234                    | 1.33E-04                            |  |  |  |  |  |  |  |
| U-235                    | 4.19E-06                            |  |  |  |  |  |  |  |
| U-236                    | 2.81E-07                            |  |  |  |  |  |  |  |
| U-238                    | 2.79E-06                            |  |  |  |  |  |  |  |
| U-234<br>U-235<br>U-236  | 1.33E-04<br>4.19E-06<br>2.81E-07    |  |  |  |  |  |  |  |

## **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

## **Management Comments**

## Waste Stream ID: RF-TT0832 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W101 Stream Name Combustibles/TRU Inventory Date 9/30/2002

Local ID None Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Other/Multiple Sources

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |  |  |  |  |
|----------------------|--------------------|--------|-------|-------|--|--|--|--|--|
| ContainerType        |                    | Stored | Proj. | Total |  |  |  |  |  |
| Drum / 55 gallon     |                    | 0.4    | 100.0 | 100.5 |  |  |  |  |  |
|                      | As-Generated Total | 0.4    | 100.0 | 100.5 |  |  |  |  |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 100.3 | 100.7 |
|                    | Final Form Total | 0.4    | 100.3 | 100.7 |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.40                          |
| Aluminum-Base Metal/Alloys     | 2.14                          |
| Other Metal/Alloys             | 4.75                          |
| Other Inorganic Materials      | 78.92                         |
| Cellulosics                    | 12.85                         |
| Rubber                         | 71.68                         |
| Plastics                       | 23.43                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 253.04                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.51                        |
| Packaging Material, Plastic    | 30.84                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |  |
| Am-241                   | 2.26E+00                            |  |  |  |  |  |  |  |
| Np-237                   | 1.98E-05                            |  |  |  |  |  |  |  |
| Pu-238                   | 2.45E-01                            |  |  |  |  |  |  |  |
| Pu-239                   | 6.06E+00                            |  |  |  |  |  |  |  |
| Pu-240                   | 1.38E+00                            |  |  |  |  |  |  |  |
| Pu-241                   | 1.78E+01                            |  |  |  |  |  |  |  |
| Pu-242                   | 1.69E-04                            |  |  |  |  |  |  |  |
| Th-229                   | 4.18E-13                            |  |  |  |  |  |  |  |
| Th-230                   | 1.90E-08                            |  |  |  |  |  |  |  |
| Th-232                   | 1.46E-16                            |  |  |  |  |  |  |  |
| U-233                    | 8.13E-10                            |  |  |  |  |  |  |  |
| U-234                    | 1.81E-04                            |  |  |  |  |  |  |  |
| U-235                    | 5.66E-06                            |  |  |  |  |  |  |  |
| U-236                    | 4.92E-07                            |  |  |  |  |  |  |  |
| U-238                    | 5.48E-06                            |  |  |  |  |  |  |  |

## **Waste Stream Description**

This waste consists mainly of cloth and paper products from cleanup of gloveboxes and spills.

## **Management Comments**

2.87E-08

9.47E-18

1.29E-12

2.66E-04

3.06E-05

3.20E-08

2.38E-03

### Waste Stream ID: RF-TT0854

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RF-W109         Stream Name         Metal/TRU           Local ID         N/A         Handling         CH         Final Wa | li        | Inactoria  | rizad Matal | March March Oa tal SE444     | A - divides O - s             |                 | ory Date 9/30/2002                  |
|---|-----------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | iste Form | Uncategor  | rized Metal | Waste Matrix Code S5111      | Activity Col                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Decontamination :  Waste Volume Detail (m3)   | and Decom | nmissionir | ng          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 3.33E-02                            |
| ContainerType   | Stored    | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 7.14E-08                            |
| Drum / 55 gallon  | 0.6       | •          |             | Other Metal/Alloys           | 412.90                        | Pu-238          | 1.68E-02                            |
|   |           |            |             | Other Inorganic Materials    | 0.00                          | Pu-239          | 3.92E-01                            |
| As-Generated Total  | 0.6       | 1.0        | 1.7         | Cellulosics                  | 12.89                         | Pu-240          | 8.98E-02                            |
| Final Form Volumes  |           |            |             | Rubber                       | 0.00                          | Pu-241          | 1.29E+00                            |
| ContainerType   | Stored    | Proj.      | Total       | Plastics                     | 0.00                          | Pu-242          | 1.14E-05                            |
| 55 Gallon Drum  | 0.6       | •          |             | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 3.75E-16                            |

1.7

1.7

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

138.57

32.46

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

55 Gallon Drum

"Unclassified beryllium metal consists of scrap beryllium metal pieces, chips and turnings from repackaging and decontamination and decommissioning operations."

0.6

0.6

Final Form Total

1.0

1.0

## **Management Comments**

## Waste Stream ID: RF-TT0886

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| cal ID N/A Handling CH Final Was                      | RF-W112 Stream Name Solidified Lab Waste/TRU  N/A Handling CH Final Waste Form Solidified Inorganics |                               |         |                                     |        |            | cory Date 9/30/200<br>ecayed to CY 200 |  |
|---|--|-------------------------------|---------|-------------------------------------|--------|------------|--|--|
| nal Waste Form Descriptors                            |  |                               |         | Waste Material Parameters           |        | Final Form | Final Form Radionuclides               |  |
| Category: Defense TRU Waste Source: Decontamination a | Material Parameter   | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |        |            |  |  |
| As-Generated Volumes                                  |  |                               |         | Iron-Base Metal/Alloys              | 17.34  | Am-241     | 6.37E-02                               |  |
| ContainerType   | Stored   | Proj.                         | Total   | Aluminum-Base Metal/Alloys          | 0.00   | Np-237     | 1.37E-07                               |  |
| 8804 Can  | 0.0  | 0.0                           | 0.0     | Other Metal/Alloys                  | 0.00   | Pu-238     | 3.21E-02                               |  |
|   |  |                               |         | Other Inorganic Materials           | 31.82  | Pu-239     | 7.51E-01                               |  |
| As-Generated Total                                    | 0.0  | 0.0                           | 0.0     | Cellulosics                         | 167.07 | Pu-240     | 1.72E-01                               |  |
| Final Form Volumes                                    |  |                               |         | Rubber                              | 0.00   | Pu-241     | 2.47E+00                               |  |
| ContainerType   | Stored   | Proj.                         | Total   | Plastics                            | 0.00   | Pu-242     | 2.18E-05                               |  |
| 55 Gallon Drum  | 0.2  | 0.0                           | 0.2     | Solidified, Inorganic Matrix        | 0.00   | Th-229     | 7.18E-16                               |  |
|   |  |                               |         | Cement (Solidified)                 | 0.00   | Th-230     | 6.28E-11                               |  |
| Final Form Total                                      | 0.2  | 0.0                           | 0.2     | Vitrified                           | 0.00   | Th-232     | 1.81E-17                               |  |
|   |  |                               |         | Solidified, Organic Matrix          | 0.00   | U-233      | 2.48E-12                               |  |
|   |  |                               |         | Soils                               | 0.00   | U-234      | 1.15E-06                               |  |
|   |  |                               |         | Packaging Material, Steel           | 131.00 | U-235      | 8.89E-09                               |  |
|   |  |                               |         | Packaging Material, Plastic         | 37.00  | U-236      | 6.12E-08                               |  |
|   |  |                               |         | Packaging Material, Lead            | 0.00   | U-238      | 3.94E-14                               |  |
|   |  |                               |         | Packaging Material, Steel Plug      | 0.00   |            | •                                      |  |

Non-hazardous solid excess chemicals contaminated with plutonium to TRU concentrations. Chemicals are expired or off-specification in some manner and are therefore not useable.

## **Management Comments**

1.90E-08

1.46E-16

8.13E-10

1.81E-04

5.66E-06

4.92E-07

5.48E-06

## Waste Stream ID: RF-TT2216

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| INO V   | VASIL      | DAJLLI  | IAT HAAF | NIOKI WASIL PROFILE          |                               |            |                                     |
|---|------------|---|----------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W106 Stream Name Compressed Combustible Local ID None Handling CH Final Wa |            | Inventory Date 9/30/200 centrations Decayed to CY 200 |          |                              |                               |            |                                     |
| Final Waste Form Descriptors  |            |   |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Pollution Control of Waste Volume Detail (m3)   | or Waste T | reatment l  | Process  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |   |          | Iron-Base Metal/Alloys       | 269.39                        | Am-241     | 2.26E+00                            |
| ContainerType   | Stored     | Proj.   | Total    | Aluminum-Base Metal/Alloys   | 1.52                          | Np-237     | 1.98E-05                            |
| Drum / 55 gallon  | 3.1        | 0.0   |          | Other Metal/Alloys           | 5.33                          | Pu-238     | 2.45E-01                            |
|   |            |   |          | Other Inorganic Materials    | 13.90                         | Pu-239     | 6.06E+00                            |
| As-Generated Total  | 3.1        | 0.0   | 3.1      | Cellulosics                  | 24.37                         | Pu-240     | 1.38E+00                            |
| Final Form Volumes  |            |   |          | Rubber                       | 82.63                         | Pu-241     | 1.78E+01                            |
| ContainerType   | Stored     | Proj.   | Total    | Plastics                     | 260.45                        | Pu-242     | 1.69E-04                            |
| 55 Gallon Drum  | 3.1        | 0.0   |          | Solidified, Inorganic Matrix | 5.33                          | Th-229     | 4.18E-13                            |
|   |            |   |          |                              |                               |            |                                     |

3.1

**Final Form Total** 

3.1

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

26.27

0.00

131.00

37.00

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## Waste Stream Description

Cloth, paper, cellulosic, and plastic debris material generated from plutonium operations/activities. Combustible waste consisting of any dry combustibles (IDC821), wet combustibles (IDC822), and plastic wastes (IDC825) packed into a 35-gallon drum that was slightly comptessed prior to being packed into a 55-gallon drum. This waste was previously referred to as "supercompacted" but is inreality compressed waste.

### **Management Comments**

Required prior EPA approval. Drums of compressed debris were determined to be equivalent to the uncompressed portion of the debris streams that are currently approved by EPA for disposal from the Rocky Flats Environmental Technology Site (RFETS), as referenced in the March 9, 2005 letter from Bonnie C. Gitlin to Dr. Ines Triay.

## Waste Stream ID: RF-TT3010

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RF-W109<br>N/A   | Stream Name<br>Handling |          |                  | ste Form  | -leterogen | eous Debr | ris | Waste Matrix Code S5420    | Activity                      | Conce |              | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|------------------|-------------------------|----------|------------------|-----------|------------|-----------|-----|----------------------------|-------------------------------|-------|--------------|-------------------------------------|
| Final Wa          | ste Form Descrip | otors                   |          |                  |           |            |           |     | Waste Material Parameters  |                               |       | Final Form R | adionuclides                        |
| Categ             | pory: Defense TF |                         | urce: De | econtamination a | and Decom | nmissionin | g         | ]   | Material Parameter         | Average<br>Density<br>(kg/m3) |       | Isotope      | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge             | nerated Volumes  |                         |          |                  |           |            |           | Ī   | Iron-Base Metal/Alloys     | 259.62                        |       | Am-241       | 4.26E-01                            |
| Conta             | inerType         |                         |          |                  | Stored    | Proj.      | Total     |     | Aluminum-Base Metal/Alloys | 19.27                         |       | Np-237       | 7.07E-06                            |
|                   | / 55 gallon      |                         |          |                  | 3.7       | 20.0       | 23.7      |     | Other Metal/Alloys         | 12.97                         |       | Pu-238       | 9.49E-02                            |
| Standa            | ard Waste Box    |                         |          |                  | 34.2      | 302.1      | 336.3     |     | Other Inorganic Materials  | 15.25                         |       | Pu-239       | 2.25E+00                            |

360.0

| Final Form Volumes |       |  |  |  |
|--------------------|-------|--|--|--|
| Stored             | Proj. | Total  |  |  |
| 3.8                | 20.0  | 23.8   |  |  |
| 34.0               | 300.5 | 334.5  |  |  |
|                    | 3.8   | Stored         Proj.           3.8         20.0           34.0         300.5 |  |  |

**As-Generated Total** 

Final Form Total 37.8 320.5 358.3

37.9

322.1

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 259.62                        |
| Aluminum-Base Metal/Alloys     | 19.27                         |
| Other Metal/Alloys             | 12.97                         |
| Other Inorganic Materials      | 15.25                         |
| Cellulosics                    | 4.88                          |
| Rubber                         | 3.26                          |
| Plastics                       | 15.26                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 151.71                        |
| Packaging Material, Plastic    | 7.48                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Typical       |
|---------------|
| Concentration |
| (Ci/m3)       |
| 4.26E-01      |
| 7.07E-06      |
| 9.49E-02      |
| 2.25E+00      |
| 5.15E-01      |
| 7.13E+00      |
| 6.27E-05      |
| 1.78E-13      |
| 9.45E-10      |
| 5.43E-17      |
| 3.29E-10      |
| 1.04E-05      |
| 2.53E-07      |
| 1.83E-07      |
| 9.27E-09      |
|               |

## **Waste Stream Description**

"This IDC is assigned to composite debris, rubble, or material composed of such things as gloveboxes, process equipment and other inorganic materials, such as concrete, glass, firebrick, ceramics, asbestos, etc. The materials contain up to 10 weight percent hydrogenous (organic) material such as cellulosics, Plexiglas, rubber, small quantities of nonhazardous liquid (e.g., Texaco 650 oil) absorbed or solidified using Oil Dri or Nochar polymer, or other organic materials associated with the waste items."

## **Management Comments**

## Waste Stream ID: RF-TT3011

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W109           | Stream Name Metal/TRU | J                                     |                           |                    | Invento            | ry Date 9/30/2002        |
|----------|-------------------|-----------------------|---------------------------------------|---------------------------|--------------------|--------------------|--------------------------|
| Local ID | N/A               | Handling CH           | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5490   | Activity C         | Concentrations Dec | cayed to CY 2002         |
| Final Wa | ste Form Descrip  | otors                 |                                       | Waste Material Parameters |                    | Final Form F       | Radionuclides            |
| Categ    | ory: Defense TF   | RU Waste Source: De   | econtamination and Decommissioning    |                           | Average<br>Density |                    | Typical<br>Concentration |
| Waste Vo | olume Detail (m3) |                       |                                       | Material Parameter        | (kg/m3)            | Isotope            | (Ci/m3)                  |
| As-Ge    | nerated Volumes   |                       |                                       | Iron-Base Metal/Alloys    | 201.02             | Am-241             | 3.82E-01                 |

| ContainerType      | Stored | Proj. | Total  |
|--------------------|--------|-------|--------|
| Drum / 55 gallon   | 17.1   | 1.0   | 18.1   |
| Standard Waste Box | 723.9  | 685.9 | 1409.8 |
| As-Generated Total | 741.0  | 686.9 | 1427.9 |

| Final Form Volumes |        |       |        |
|--------------------|--------|-------|--------|
| ContainerType      | Stored | Proj. | Total  |
| 55 Gallon Drum     | 17.1   | 1.0   | 18.1   |
| Standard Waste Box | 720.1  | 682.3 | 1402.4 |

| Final Form Total | 737.2 | 683.3 | 1420.5 |
|------------------|-------|-------|--------|

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 201.02                        |
| Aluminum-Base Metal/Alloys     | 7.15                          |
| Other Metal/Alloys             | 69.19                         |
| Other Inorganic Materials      | 36.29                         |
| Cellulosics                    | 4.42                          |
| Rubber                         | 4.22                          |
| Plastics                       | 29.68                         |
| Solidified, Inorganic Matrix   | 4.72                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 16.27                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 152.42                        |
| Packaging Material, Plastic    | 5.24                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.82E-01                            |
| Np-237  | 8.11E-06                            |
| Pu-238  | 6.55E-02                            |
| Pu-239  | 1.53E+00                            |
| Pu-240  | 3.51E-01                            |
| Pu-241  | 5.04E+00                            |
| Pu-242  | 4.44E-05                            |
| Th-229  | 2.11E-13                            |
| Th-230  | 1.80E-09                            |
| Th-232  | 3.70E-17                            |
| U-233   | 3.85E-10                            |
| U-234   | 1.78E-05                            |
| U-235   | 5.21E-07                            |
| U-236   | 1.25E-07                            |
| U-238   | 3.87E-07                            |

## **Waste Stream Description**

"This IDC is assigned to composite debris, rubble, or material composed of such things as gloveboxes, process equipment and other inorganic materials, such as concrete, glass, firebrick, ceramics, asbestos, etc. This material typically contains greater than 10 weight percent hydrogenous (organic) material such as cellulosics, plastic, Plexiglas, rubber, small quantities of nonhazardous liquid (e.g., Texaco 650 oil) absorbed or solidified using Oil Dri or Nochar polymer, or other organic materials associated with the waste items; however, there is no upper limit for the amount of hydrogenous material. "

## **Management Comments**

5.70E-16

1.01E-09

4.46E-05

6.63E-07

1.92E-06

6.54E-06

## Waste Stream ID: RF-TT301U Appendix J

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

|  | AOIL     | JAOLLII  |       | TORT WASTET ROTTEE           |                               |            |                                     |
|--|----------|----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RF-W117 Stream Name Coarse Graphite/TRU                                  |          |          |       |                              |                               | Invent     | ory Date 9/30/2002                  |
| Local ID N/A Handling CH Final Wa  | ste Form | Graphite |       | Waste Matrix Code S5126      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |          |          |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Residue Repackage Waste Volume Detail (m3) | ging     |          |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |          |          |       | Iron-Base Metal/Alloys       | 84.62                         | Am-241     | 4.06E+00                            |
| ContainerType  | Stored   | Proj.    | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 2.65E-05                            |
| Drum / 55 gallon   | 15.6     | •        |       | Other Metal/Alloys           | 0.00                          | Pu-238     | 9.64E-01                            |
|  |          |          |       | Other Inorganic Materials    | 288.22                        | Pu-239     | 2.32E+01                            |
| As-Generated Total   | 15.6     | 0.0      | 15.6  | Cellulosics                  | 12.89                         | Pu-240     | 5.40E+00                            |
| Final Form Volumes   |          |          |       | Rubber                       | 0.00                          | Pu-241     | 6.93E+01                            |
| ContainerType  | Stored   | Proj.    | Total | Plastics                     | 19.44                         | Pu-242     | 6.61E-04                            |
| 55 Gallon Drum   | 15.6     |          |       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 5.08E-13                            |
| oo Callott Brain   | 10.0     | 0.0      | .0.0  | Cement (Solidified)          | 0.00                          | Th-230     | 2.98E-09                            |

15.6

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

0.00

0.00

138.53

30.36

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

0.0

15.6

## Waste Stream Description

Classified graphite shapes that have been sanitized by crushing in a hammermill to a size of less than ½-inch in diameter.

Final Form Total

## **Management Comments**

#### Appendix J RF-TT310P Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Coarse Graphite/TRU HQ ID RF-W117 Inventory Date 9/30/2002 N/A CH Final Waste Form Graphite Waste Matrix Code S5126 Activity Concentrations Decayed to CY 2002 Local ID Handling

**Final Waste Form Descriptors** 

Source: Residue Repackaging Category: Defense TRU Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 2.7    | 0.0   | 2.7   |
|                      | As-Generated Total | 2.7    | 0.0   | 2.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon POCs     |                  | 2.7    | 0.0   | 2.7   |
|                    | Final Form Total | 2.7    | 0.0   | 2.7   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.22                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 33.05                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 1.91                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.17                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 7.85E+00                            |  |  |
| Np-237                   | 3.01E-05                            |  |  |
| Pu-238                   | 1.45E+00                            |  |  |
| Pu-239                   | 4.50E+01                            |  |  |
| Pu-240                   | 9.79E+00                            |  |  |
| Pu-241                   | 8.35E+01                            |  |  |
| Pu-242                   | 7.15E-04                            |  |  |
| Th-229                   | 3.34E-13                            |  |  |
| Th-230                   | 2.99E-09                            |  |  |
| Th-232                   | 1.03E-15                            |  |  |
| U-233                    | 8.27E-10                            |  |  |
| U-234                    | 5.32E-05                            |  |  |
| U-235                    | 5.76E-07                            |  |  |
| U-236                    | 3.49E-06                            |  |  |
| U-238                    | 3.89E-10                            |  |  |

**Waste Stream Description** 

A blended product of IDC 310 and IDC 301U

**Management Comments** 

## Waste Stream ID: RF-TT338S Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W115 Stream Name Coarse Graphite/TRU Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Residue Repackaging

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Slip Lid Can         |                    | 0.0    | 0.0   | 0.0   |
|                      | As-Generated Total | 0.0    | 0.0   | 0.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.44                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.87                         |
| Other Inorganic Materials      | 92.37                         |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 80.40                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 138.51                        |
| Packaging Material, Plastic    | 29.39                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 8.98E-01                            |  |  |
| Np-237                   | 2.00E-06                            |  |  |
| Pu-238                   | 4.31E-01                            |  |  |
| Pu-239                   | 1.01E+01                            |  |  |
| Pu-240                   | 2.31E+00                            |  |  |
| Pu-241                   | 3.32E+01                            |  |  |
| Pu-242                   | 2.93E-04                            |  |  |
| Th-229                   | 1.12E-14                            |  |  |
| Th-230                   | 8.44E-10                            |  |  |
| Th-232                   | 2.44E-16                            |  |  |
| U-233                    | 3.75E-11                            |  |  |
| U-234                    | 1.54E-05                            |  |  |
| U-235                    | 1.20E-07                            |  |  |
| U-236                    | 8.23E-07                            |  |  |
| U-238                    | 5.30E-13                            |  |  |

## **Waste Stream Description**

Insulation standards discovered during residue repackaging.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W116   | Stream Nan | ne "Sand, | Slag, and Crucible/TRU"           |    |                         |         |         | Inventory      | Date 9/  | 30/2002 |
|----------|---|------------|-----------|-----------------------------------|----|-------------------------|---------|---------|----------------|----------|---------|
| Local ID | N/A   | Handlii    | ng CH     | Final Waste Form Inorganic Non-Me | al | Waste Matrix Code S5129 | Activit | y Conce | ntrations Deca | yed to C | Y 2002  |
|          | <u> </u>  |            |           |                                   |    |                         |         |         |                | -        |         |
| Final Wa | Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides |            |           |                                   |    | des                     |         |         |                |          |         |
| Categ    | ory: Defense TF   | RU Waste   | Source:   | Materials Production/Repackaging  |    |                         | Average |         |                | Тур      | ical    |

## Waste Volume Detail (m3)

Waste Stream ID:

RF-TT390P

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon POCs       |                    | 0.4    | 0.0   | 0.4   |
|                      | Final Form Total   | 0.4    | 0.0   | 0.4   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 9.07                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 23.39                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |
|--------------------------|-------------------------------------|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                   | 8.62E+00                            |  |  |
| Np-237                   | 3.00E-05                            |  |  |
| Pu-238                   | 1.17E+00                            |  |  |
| Pu-239                   | 4.91E+01                            |  |  |
| Pu-240                   | 1.03E+01                            |  |  |
| Pu-241                   | 8.27E+01                            |  |  |
| Pu-242                   | 5.42E-04                            |  |  |
| Th-229                   | 2.73E-13                            |  |  |
| Th-230                   | 9.75E-09                            |  |  |
| Th-232                   | 1.09E-15                            |  |  |
| U-233                    | 7.45E-10                            |  |  |
| U-234                    | 1.11E-04                            |  |  |
| U-235                    | 2.81E-06                            |  |  |
| U-236                    | 3.68E-06                            |  |  |
| U-238                    | 1.97E-08                            |  |  |

## **Waste Stream Description**

"Unpulverized calcium fluoride slag processed for shipment to the Savannah River Site (SRS). The SRS project was cancelled, and this IDC is now considered waste."

## **Management Comments**

## RF-TT391P Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible/TRU" Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides

## Waste Volume Detail (m3)

Defense TRU Waste

Waste Stream ID:

Category:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 22.7   | 0.0   | 22.7  |
|                      | As-Generated Total | 22.7   | 0.0   | 22.7  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon POCs       |                    | 22.7   | 0.0   | 22.7  |

Source: Materials Production/Repackaging

Final Form Total

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 28.20                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 26.93                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 8.46E+00                            |  |  |  |  |
| Np-237                   | 3.79E-05                            |  |  |  |  |
| Pu-238                   | 9.62E-01                            |  |  |  |  |
| Pu-239                   | 4.05E+01                            |  |  |  |  |
| Pu-240                   | 9.13E+00                            |  |  |  |  |
| Pu-241                   | 9.19E+01                            |  |  |  |  |
| Pu-242                   | 6.57E-04                            |  |  |  |  |
| Th-229                   | 5.20E-13                            |  |  |  |  |
| Th-230                   | 1.88E-09                            |  |  |  |  |
| Th-232                   | 9.63E-16                            |  |  |  |  |
| U-233                    | 1.18E-09                            |  |  |  |  |
| U-234                    | 3.44E-05                            |  |  |  |  |
| U-235                    | 4.80E-07                            |  |  |  |  |
| U-236                    | 3.25E-06                            |  |  |  |  |
| U-238                    | 1.19E-12                            |  |  |  |  |

## **Waste Stream Description**

"Unpulverized magnesium oxide sand and crucible processed for shipment to the SRS. The SRS project was cancelled, and this IDC is now considered waste."

22.7

0.0

22.7

## **Management Comments**

## RF-TT392P Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible/TRU" Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Repackaging

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 65.1   | 0.0   | 65.1  |
|                      |                    |        |       |       |
|                      | As-Generated Total | 65.1   | 0.0   | 65.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon POCs     |                  | 65.2   | 0.0   | 65.2  |
|                    | Final Form Total | 65.2   | 0.0   | 65.2  |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 26.82                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 25.48                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes            |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| 5.99E+00                            |  |  |  |  |  |
| 2.06E-05                            |  |  |  |  |  |
| 1.21E+00                            |  |  |  |  |  |
| 4.24E+01                            |  |  |  |  |  |
| 9.65E+00                            |  |  |  |  |  |
| 6.36E+01                            |  |  |  |  |  |
| 6.19E-04                            |  |  |  |  |  |
| 1.85E-13                            |  |  |  |  |  |
| 2.45E-09                            |  |  |  |  |  |
| 1.02E-15                            |  |  |  |  |  |
| 5.08E-10                            |  |  |  |  |  |
| 4.40E-05                            |  |  |  |  |  |
| 5.27E-07                            |  |  |  |  |  |
| 3.43E-06                            |  |  |  |  |  |
| 2.27E-10                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

## **Waste Stream Description**

"Unpulverized magnesium oxide sand, calcium fluoride slag, and magnesium oxide crucible processed for shipment to the SRS."

## **Management Comments**

#### RF-TT393R Waste Stream ID:

## Appendix J TRIJ WASTE BASELINE INVENTORY WASTE PROFILE

|          |                   |             |          | 1110 1171012 271022            |           |                           |                    |       |               |                       |
|----------|-------------------|-------------|----------|--------------------------------|-----------|---------------------------|--------------------|-------|---------------|-----------------------|
| HQ ID    | RF-W116           | Stream Name | "Sand, S | Slag, and Crucible/TRU"        |           |                           |                    |       | Inventor      | y Date 9/30/2002      |
| Local ID | N/A               | Handling    | СН       | Final Waste Form Solidified I  | norganics | Waste Matrix Code S5129   | Activity           | Conce | ntrations Dec | ayed to CY 2002       |
| Final Wa | ste Form Descrip  | tors        |          |                                |           | Waste Material Parameters |                    |       | Final Form R  | adionuclides          |
| Categ    | ory: Defense TF   | RU Waste So | urce:    | Materials Recovery/Repackaging |           |                           | Average<br>Density |       |               | Typical Concentration |
| Waste Vo | olume Detail (m3) |             |          |                                |           | Material Parameter        | (kg/m3)            |       | Isotope       | (Ci/m3)               |
| As-Ge    | nerated Volumes   |             |          |                                |           | Iron-Base Metal/Alloys    | 51.47              |       | Am-241        | 4.47E+00              |

| A3-Ocherated Volumes |                    |       |     |       |
|----------------------|--------------------|-------|-----|-------|
| ContainerType        | Stored             | l Pro | j.  | Total |
| 8802 Can             | 0                  | .0    | 0.0 | 0.0   |
| POC / 55 gallon      | 12                 | .3    | 0.0 | 12.3  |
| As-                  | Generated Total 12 | .3    | 0.0 | 12.3  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon POCs     | 12.5   | 0.0   | 12.5  |
|                    |        |       |       |

|                  |      | 0.0 | 0    |
|------------------|------|-----|------|
| -                |      |     |      |
| Final Form Total | 12.5 | 0.0 | 12.5 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 51.47                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 45.01                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionucildes |                                     |  |  |  |  |
|--------------------------|-------------------------------------|--|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                   | 4.47E+00                            |  |  |  |  |
| Np-237                   | 1.61E-05                            |  |  |  |  |
| Pu-238                   | 1.07E+00                            |  |  |  |  |
| Pu-239                   | 3.37E+01                            |  |  |  |  |
| Pu-240                   | 7.74E+00                            |  |  |  |  |
| Pu-241                   | 5.37E+01                            |  |  |  |  |
| Pu-242                   | 4.91E-04                            |  |  |  |  |
| Th-229                   | 1.64E-13                            |  |  |  |  |
| Th-230                   | 3.59E-09                            |  |  |  |  |
| Th-232                   | 8.17E-16                            |  |  |  |  |
| U-233                    | 4.22E-10                            |  |  |  |  |
| U-234                    | 5.22E-05                            |  |  |  |  |
| U-235                    | 8.45E-07                            |  |  |  |  |
| U-236                    | 2.75E-06                            |  |  |  |  |
| U-238                    | 3.94E-09                            |  |  |  |  |

## **Waste Stream Description**

"Repackaged/blended sand, slag, and crucible heel. These materials may be blended with reagent magnesium oxide sand. Materials which may become IDC 393R for disposal include sand, slag, and crucible heel (IDC 393P), ground/blended sand, slag, and crucible heel (IDC 393P), and SS&C heel repack/processed (IDC 393R)."

## **Management Comments**

## Waste Stream ID: RF-TT394P

**As-Generated Volumes** 

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          | _                 | -           |        |                                      |                           |                    |       |                |                          |
|----------|-------------------|-------------|--------|--------------------------------------|---------------------------|--------------------|-------|----------------|--------------------------|
| HQ ID    | RF-W116           | Stream Name | "Sand, | Slag, and Crucible/TRU"              |                           |                    |       | Inventor       | y Date 9/30/2002         |
| Local ID | N/A               | Handling    | СН     | Final Waste Form Inorganic Non-Metal | Waste Matrix Code S5129   | Activity           | Conce | ntrations Deca | ayed to CY 2002          |
| Final Wa | ste Form Descrip  | otors       |        |                                      | Waste Material Parameters |                    |       | Final Form R   | adionuclides             |
| Cate     | gory: Defense TF  | RU Waste So | urce:  | Materials Production/Repackaging     |                           | Average            |       |                | Typical                  |
| Waste V  | olume Detail (m3) | )           |        |                                      | Material Parameter        | Density<br>(kg/m3) |       | Isotope        | Concentration<br>(Ci/m3) |

| ContainerType      | Stored | Proj. | Total |
|--------------------|--------|-------|-------|
| POC / 55 gallon    | 0.6    | 0.0   | 0.6   |
| As-Generated Total | 0.6    | 0.0   | 0.6   |
|                    |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon POCs     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 26.82                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 25.48                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.30E+01                            |
| Np-237  | 1.36E-04                            |
| Pu-238  | 1.33E+00                            |
| Pu-239  | 5.23E+01                            |
| Pu-240  | 1.11E+01                            |
| Pu-241  | 7.74E+01                            |
| Pu-242  | 5.89E-04                            |
| Th-229  | 3.02E-12                            |
| Th-230  | 3.83E-09                            |
| Th-232  | 1.17E-15                            |
| U-233   | 5.77E-09                            |
| U-234   | 5.89E-05                            |

9.86E-07

3.94E-06

3.25E-09

U-235

U-236

U-238

## **Waste Stream Description**

"Magnesium oxide sand processed for shipment to the SRS. The SRS project was cancelled, and this IDC is now considered waste. The sand will contain small particles of calcium fluoride slag and small pieces of magnesium oxide crucible."

## **Management Comments**

3.83E-09

1.17E-15

5.77E-09

5.89E-05

9.86E-07

3.94E-06

3.25E-09

## Waste Stream ID: RF-TT395P

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RF-W116          | Stream Name "Sand, Slag, and Crucible | e/TRU"     |            |           |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|------------------|---------------------------------------|------------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | N/A              | Handling CH Final Wa                  | ste Form   | norganic I | Non-Metal | Waste Matrix Code S5129      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa | ste Form Descrip | otors                                 |            |            |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Categ    | pory: Defense TF |                                       | ion/Repack | kaging     |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes  |                                       |            |            |           | Iron-Base Metal/Alloys       | 19.09                         | Am-241          | 1.30E+01                            |
| Conta    | inerType         |                                       | Stored     | Proj.      | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 1.36E-04                            |
|          | 55 gallon        |                                       | 0.8        | •          |           | Other Metal/Alloys           | 0.00                          | Pu-238          | 1.33E+00                            |
|          | g                |                                       |            |            |           | Other Inorganic Materials    | 28.64                         | Pu-239          | 5.23E+01                            |
|          |                  | As-Generated Total                    | 0.8        | 0.0        | 0.8       | Cellulosics                  | 167.07                        | Pu-240          | 1.11E+01                            |
| Final I  | Form Volumes     |                                       |            |            |           | Rubber                       | 0.00                          | Pu-241          | 7.74E+01                            |
|          | inerType         |                                       | Stored     | Proj.      | Total     | Plastics                     | 0.00                          | Pu-242          | 5.89E-04                            |
|          | llon POCs        |                                       | 0.8        |            |           | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 3.02E-12                            |

8.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

Vitrified

Soils

0.00

0.00

0.00

0.00

525.22

23.87

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

## **Waste Stream Description**

"Unpulverized calcium fluoride slag and magnesium oxide crucible processed for shipment to the SRS. The SRS project was cancelled, and this IDC is now considered waste."

0.0

8.0

Final Form Total

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID  | RF-W116         | Stream Na | ne "Sand, | Slag, and Crucible/TRU"             |                         |            |         | Inventory      | / Date 9/3 | 0/2002 |
|--|-----------------|-----------|-----------|-------------------------------------|-------------------------|------------|---------|----------------|------------|--------|
| Local ID   | N/A             | Handli    | ng CH     | Final Waste Form Inorganic Non-Meta | Waste Matrix Code S5129 | Activit    | y Conce | ntrations Deca | yed to CY  | 2002   |
|  |                 | _         |           |                                     | <br><u></u>             |            |         |                |            |        |
| Final Waste Form Descriptors Waste Material Parameters |                 |           |           |                                     | Final Form Ra           | adionuclid | les     |                |            |        |
| Categ  | ory: Defense TI | RU Waste  | Source:   | Materials Production/Repackaging    |                         | Average    |         |                | Typic      | al     |

## Waste Volume Detail (m3)

Waste Stream ID:

RF-TT396P

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon POCs       |                    | 0.2    | 0.0   | 0.2   |
|                      | Final Form Total   | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 26.82                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 25.48                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 1.30E+01                            |  |  |  |
| Np-237                   | 1.36E-04                            |  |  |  |
| Pu-238                   | 1.33E+00                            |  |  |  |
| Pu-239                   | 5.23E+01                            |  |  |  |
| Pu-240                   | 1.11E+01                            |  |  |  |
| Pu-241                   | 7.74E+01                            |  |  |  |
| Pu-242                   | 5.89E-04                            |  |  |  |
| Th-229                   | 3.02E-12                            |  |  |  |
| Th-230                   | 3.83E-09                            |  |  |  |
| Th-232                   | 1.17E-15                            |  |  |  |
| U-233                    | 5.77E-09                            |  |  |  |
| U-234                    | 5.89E-05                            |  |  |  |
| U-235                    | 9.86E-07                            |  |  |  |
| U-236                    | 3.94E-06                            |  |  |  |
| U-238                    | 3.25E-09                            |  |  |  |

## **Waste Stream Description**

"Pulverized calcium fluoride slag processed for shipment to the SRS. The SRS project was cancelled, and this IDC is now considered waste."

## **Management Comments**

## RF-TT398P Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible/TRU" Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Recovery/Repackaging

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| POC / 55 gallon      | 43.1   | 0.0   | 43.1  |
| As-Generated Total   | 43.1   | 0.0   | 43.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon POCs     |                  | 43.1   | 0.0   | 43.1  |
|                    | Final Form Total | 43.1   | 0.0   | 43.1  |

#### Waste Material Parameters

| Waste Material Parameters      |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 21.60                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 22.49                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.96                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionucildes |                                     |  |  |  |
|--------------------------|-------------------------------------|--|--|--|
| Isotope                  | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                   | 5.27E+00                            |  |  |  |
| Np-237                   | 1.79E-05                            |  |  |  |
| Pu-238                   | 1.11E+00                            |  |  |  |
| Pu-239                   | 3.96E+01                            |  |  |  |
| Pu-240                   | 8.96E+00                            |  |  |  |
| Pu-241                   | 6.01E+01                            |  |  |  |
| Pu-242                   | 5.44E-04                            |  |  |  |
| Th-229                   | 1.60E-13                            |  |  |  |
| Th-230                   | 2.20E-09                            |  |  |  |
| Th-232                   | 9.46E-16                            |  |  |  |
| U-233                    | 4.41E-10                            |  |  |  |
| U-234                    | 4.00E-05                            |  |  |  |
| U-235                    | 4.76E-07                            |  |  |  |
| U-236                    | 3.19E-06                            |  |  |  |
| U-238                    | 6.13E-11                            |  |  |  |
|                          |                                     |  |  |  |

### **Waste Stream Description**

"Pulverized sand, slag, and crucible processed for shipment to the SRS. The SRS project was cancelled, and this IDC is now considered waste. This waste stream may also include ground/blended sand, slag and crucible consisting of repackaged pulverized material or fines. Sand, slag, and crucible materials which may become IDC 398P for disposal include reburned sand, slag, and crucible sweepings (IDC 387); ground/blended reburned sand, slag, and crucible sweepings (IDC 387P); ground/blended slag (IDC 390P); ground/blended sand and crucible (IDC 391P); ground/blended sand, slag, and crucible (IDC 392P); magnesium oxide sand (IDC 394); ground/blended slag (IDC 396P); pulverized slag (IDC 396P); pulverized sand, slag, and crucible (IDC 398); and ground/blended sand, slag, and crucible (IDC 398P)."

### **Management Comments**

## Waste Stream ID: RF-TT398R Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RF-W116 Stream Name "Sand, Slag, and Crucible/TRU" Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Recovery/Repackaging

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 69.7   | 0.0   | 69.7  |
|                      | As-Generated Total | 69.7   | 0.0   | 69.7  |
| Final Form Volumes   |                    |        |       |       |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon POCs |                  | 69.8   | 0.0   | 69.8  |
|                |                  |        |       |       |
|                | Final Form Total | 69.8   | 0.0   | 69.8  |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 29.06                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 24.80                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.50E+01                            |
| Np-237  | 4.39E-04                            |
| Pu-238  | 1.28E+00                            |
| Pu-239  | 3.96E+01                            |
| Pu-240  | 8.96E+00                            |
| Pu-241  | 7.24E+01                            |
| Pu-242  | 6.82E-04                            |
| Th-229  | 1.02E-11                            |
| Th-230  | 2.50E-09                            |
| Th-232  | 9.46E-16                            |
| U-233   | 1.93E-08                            |
| U-234   | 4.57E-05                            |
| U-235   | 4.68E-07                            |
| U-236   | 3.19E-06                            |
| U-238   | 1.24E-12                            |

## **Waste Stream Description**

"Repackaged/blended sand slag and crucible consisting of unpulverized material or unpulverized material mixed with pulverized material or fines. Any sand, slag, and crucible IDC may become IDC 398R for disposal."

## **Management Comments**

9.76E-16

1.02E-09

4.01E-05

5.81E-07

3.29E-06

8.64E-10

## Waste Stream ID: RF-TT411R

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| I KU V  | VASIE      | PASELII | NE INVEN | TORY WASTE PROFILE           |                               |                  |   |
|---|------------|---------|----------|------------------------------|-------------------------------|------------------|---|
| HQ ID RF-W103 Stream Name Miscellaneous Plutonium Local ID N/A Handling CH Final Wa | Recovery   | 71      | /TRU     | Waste Matrix Code S3141      | A ativity Ca                  |                  | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Local ID N/A Handling CH Final Wa   | iste Form  | Jail    |          | waste Matrix Code 33141      | Activity Co                   | incentrations De | scayed to C1 2002                       |
| Final Waste Form Descriptors  |            |         |          | Waste Material Parameters    |                               | Final Form       | Radionuclides                           |
| Category: Defense TRU Waste Source: Materials Recover Waste Volume Detail (m3)      | ry/Repacka | aging   |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |         |          | Iron-Base Metal/Alloys       | 11.20                         | Am-241           | 1.07E+01                                |
| ContainerType   | Stored     | Proj.   | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237           | 3.99E-05                                |
| POC / 55 gallon   | 7.7        | 0.0     | 7.7      | Other Metal/Alloys           | 6.51                          | Pu-238           | 1.04E+00                                |
|   |            |         |          | Other Inorganic Materials    | 18.41                         | Pu-239           | 4.09E+01                                |
| As-Generated Total  | 7.7        | 0.0     | 7.7      | Cellulosics                  | 167.07                        | Pu-240           | 9.25E+00                                |
| Final Form Volumes  |            |         | 1        | Rubber                       | 0.00                          | Pu-241           | 4.63E+01                                |
| ContainerType   | Stored     | Proj.   | Total    | Plastics                     | 1.27                          | Pu-242           | 7.25E-04                                |
| 55 Gallon POCs  | 7.7        | 0.0     |          | Solidified, Inorganic Matrix | 0.00                          | Th-229           | 3.78E-13                                |
| 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |            | 3.0     |          | Cement (Solidified)          | 0.00                          | Th-230           | 2.36E-09                                |

0.0

7.7

Final Form Total

## Waste Stream Description

"Repackaged spent salt from the ER processes. Salts which become IDC 411R for disposal include electrorefining salt, first use (IDC 363), electrorefining salt, second use (IDC 364), electrorefining salt – final disposition (IDC 411), impure salt from cell clean-out (IDC 413), reburned salt from cell cleanout (IDC 426), stabilized electrorefining salt (IDC 411X), and electrorefining salt packaged for LANL (IDC 473). This output may also contain some broken or irregularly shaped pieces of magnesium oxide ceramic crucible coated with pyrochemical salt."

7.7

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

0.00

525.14

23.87

0.00

0.00

Th-232

U-233

U-234

U-235

U-236

U-238

## **Management Comments**

1.61E-09

8.21E-16

3.60E-08

2.94E-05

4.14E-07

2.77E-06

7.12E-13

Waste Stream ID: RF-TT429R

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| _   |            |       |       |                              |                               |                |  |
|---|------------|-------|-------|------------------------------|-------------------------------|----------------|--|
| HQ ID RF-W103 Stream Name Miscellaneous Plutonium Local ID N/A Handling CH Final Wa | Recovery   | 71    | t/TRU | Waste Matrix Code S3141      | A ativitus Ca                 |                | tory Date 9/30/2002<br>ecayed to CY 2002 |
| Local ID N/A Handling CH Final Wa   | ste Form   | Jail  |       | waste matrix code 33141      | Activity Co                   | ncentrations D | ecayed to C1 2002                        |
| Final Waste Form Descriptors  |            |       |       | Waste Material Parameters    |                               | Final Form     | Radionuclides                            |
| Category: Defense TRU Waste Source: Materials Recover Waste Volume Detail (m3)      | ry/Repacka | aging |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3)      |
| As-Generated Volumes  |            |       |       | Iron-Base Metal/Alloys       | 9.12                          | Am-241         | 9.46E+01                                 |
| ContainerType   | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237         | 8.78E-04                                 |
| POC / 55 gallon   | 2.1        |       |       | Other Metal/Alloys           | 5.74                          | Pu-238         | 8.24E-01                                 |
|   |            |       |       | Other Inorganic Materials    | 11.94                         | Pu-239         | 3.50E+01                                 |
| As-Generated Total  | 2.1        | 0.0   | 2.1   | Cellulosics                  | 167.07                        | Pu-240         | 7.78E+00                                 |
| Final Form Volumes  |            |       |       | Rubber                       | 0.00                          | Pu-241         | 2.99E+01                                 |
| ContainerType   | Stored     | Proj. | Total | Plastics                     | 1.15                          | Pu-242         | 3.93E-04                                 |
| 55 Gallon POCs  | 2.1        |       |       | Solidified, Inorganic Matrix | 0.00                          | Th-229         | 1.84E-11                                 |

2.1

2.1

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

525.18

23.87

0.00

0.00

Th-230

Th-232

U-233

U-234

U-235

U-236

U-238

2.1

2.1

Final Form Total

0.0

0.0

## **Waste Stream Description**

55 Gallon POCs

"Repackaged spent salt from the MSE scrub alloy process including materials from failed production runs. Salts which become IDC 429R for disposal include MSE, unknown percent unpulverized (IDC 405), MSE, unknown percent pulverized (IDC 406), MSE, 8 percent unpulverized (IDC 407), MSE, 8 percent pulverized (IDC 408), MSE, 30 percent unpulverized (IDC 409), MSE, 30 percent pulverized (IDC 410), plutonium chloride mixed salt (IDC 415), MSE salt packaged for LANL (IDC 418), stabilized scrub alloy spent salt (IDC 429X), and scrub alloy spent salt (IDC 429). This output may also contain some broken or irregularly shaped pieces of magnesium oxide ceramic crucible coated with pyrochemical salt."

## **Management Comments**

U-238

5.86E-13

0.00

0.00

## Waste Stream ID: RF-TT433X

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W103 Stream Name Miscellaneous Plutonium                              | Recovery   | Byproduct | /TRU  |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|------------|-----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Salt      |       | Waste Matrix Code S3141      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Recover Waste Volume Detail (m3) | ry/Repacka | ging      |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |       | Iron-Base Metal/Alloys       | 17.34                         | Am-241     | 9.89E+01                            |
| ContainerType  | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 3.87E-04                            |
| POC / 55 gallon  | 0.6        | 0.0       |       | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.61E-01                            |
|  | ll         |           |       | Other Inorganic Materials    | 31.82                         | Pu-239     | 3.35E+01                            |
| As-Generated Total   | 0.6        | 0.0       | 0.6   | Cellulosics                  | 167.07                        | Pu-240     | 6.73E+00                            |
| Final Form Volumes   |            |           |       | Rubber                       | 0.00                          | Pu-241     | 3.95E+01                            |
| ContainerType  | Stored     | Proj.     | Total | Plastics                     | 0.00                          | Pu-242     | 3.24E-04                            |
| 55 Gallon POCs   | 0.6        |           |       | Solidified, Inorganic Matrix | 0.00                          | Th-229     | 3.77E-12                            |
| <u> </u>   |            |           |       | Cement (Solidified)          | 0.00                          | Th-230     | 1.49E-09                            |
| Final Form Total   | 0.6        | 0.0       | 0.6   | Vitrified                    | 0.00                          | Th-232     | 7.10E-16                            |
|  |            |           |       | Solidified, Organic Matrix   | 0.00                          | U-233      | 1.00E-08                            |
|  |            |           |       | Soils                        | 0.00                          | U-234      | 2.72E-05                            |
|  |            |           |       | Packaging Material, Steel    | 525.22                        | U-235      | 3.97E-07                            |
|  |            |           |       | Packaging Material Plastic   | 23 87                         | U-236      | 2 39F-06                            |

## **Waste Stream Description**

"Spent salt from the MSE scrub alloy process that used dicesium salt. Other salts, which become IDC 433X for disposal, include MSE spent dicesium salt (IDC 427), scrub alloy spent dicesium salt (IDC 433), free calcium containing spent salt (IDC 434), and cerium/calcium spent salt (IDC 435). Salts which also may become IDC 433X for disposal include salt from bad DOR run (IDC 365), MSE Salt, Ca, Zn, K (IDC 404), Gibson salt (IDC 412), DOR salt – unoxidized calcium (IDC 414), Zn-Mg alloy metal (IDC 416) and DOR salt oxidized calcium (IDC 454)."

Packaging Material, Lead

Packaging Material, Steel Plug

## **Management Comments**

#### Appendix J Waste Stream ID: RF-TT436R TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name Miscellaneous Plutonium Recovery Byproduct/TRU HQ ID RF-W103 Inventory Date 9/30/2002 N/A CH Final Waste Form Salt Local ID Handling Waste Matrix Code S3141 Activity Concentrations Decayed to CY 2002 **Final Waste Form Descriptors** Waste Material Parameters Final Form Radionuclides Category: Defense TRU Waste Source: Materials Recovery/Repackaging Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| POC / 55 gallon      |                    | 7.1    | 0.0   | 7.1   |
|                      | As-Generated Total | 7.1    | 0.0   | 7.1   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon POCs     | 7.1    | 0.0   | 7.1   |
|                    |        |       |       |

|                  | 7.1 | 0.0 | 7.1 |
|------------------|-----|-----|-----|
| Final Form Total | 7.1 | 0.0 | 7.1 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 11.25                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 7.77                          |
| Other Inorganic Materials      | 14.32                         |
| Cellulosics                    | 167.07                        |
| Rubber                         | 0.00                          |
| Plastics                       | 1.56                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 525.22                        |
| Packaging Material, Plastic    | 23.87                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|         | Typical                  |
|---------|--------------------------|
| Isotope | Concentration<br>(Ci/m3) |
| Am-241  | 6.25E+01                 |
| Np-237  | 6.90E-04                 |
| Pu-238  | 9.72E-01                 |
| Pu-239  | 3.88E+01                 |
| Pu-240  | 8.77E+00                 |
| Pu-241  | 6.73E+01                 |
| Pu-242  | 5.56E-04                 |
| Th-229  | 1.54E-11                 |
| Th-230  | 1.90E-09                 |
| Th-232  | 9.25E-16                 |
| U-233   | 2.95E-08                 |
| U-234   | 3.47E-05                 |
| U-235   | 4.59E-07                 |
| U-236   | 3.12E-06                 |
| U-238   | 1.01E-12                 |

## **Waste Stream Description**

This output consists of repackaged Salt Residue Project material including any salt historically generated by pyrochemistry operations that contains less than 6 percent by weight moisture. This output may also contain some broken or irregularly shaped pieces of magnesium oxide ceramic crucible coated with pyrochemical salt.

## **Management Comments**

3.12E-06

1.01E-12

U-236

U-238

23.87

0.00

0.00

## Waste Stream ID: RF-TT454X

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RF-W103 Stream Name Miscellaneous Plutonium                              | Recovery                          | Byproduct | /TRU  |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|-----------------------------------|-----------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | Handling CH Final Waste Form Salt |           |       |                              | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |                                   |           |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Recover Waste Volume Detail (m3) | ry/Repacka                        | aging     |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                                   |           |       | Iron-Base Metal/Alloys       | 11.20                         | Am-241          | 6.25E+01                            |
| ContainerType Stored Proj. Total   |                                   |           |       | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237          | 6.90E-04                            |
| POC / 55 gallon  | 0.4                               |           |       | Other Metal/Alloys           | 6.51                          | Pu-238          | 9.72E-01                            |
|  |                                   |           |       | Other Inorganic Materials    | 18.41                         | Pu-239          | 3.88E+01                            |
| As-Generated Total   | 0.4                               | 0.0       | 0.4   | Cellulosics                  | 167.07                        | Pu-240          | 8.77E+00                            |
| Final Form Volumes   |                                   |           |       | Rubber                       | 0.00                          | Pu-241          | 6.73E+01                            |
| ContainerType  | Stored                            | Proj.     | Total | Plastics                     | 1.27                          | Pu-242          | 5.56E-04                            |
| 55 Gallon POCs   | 0.4                               |           |       | Solidified, Inorganic Matrix | 0.00                          | Th-229          | 1.54E-11                            |
| <u> </u>   |                                   |           |       | Cement (Solidified)          | 0.00                          | Th-230          | 1.90E-09                            |
| Final Form Total   | 0.4                               | 0.0       | 0.4   | Vitrified                    | 0.00                          | Th-232          | 9.25E-16                            |
|  |                                   |           |       | Solidified, Organic Matrix   | 0.00                          | U-233           | 2.95E-08                            |
|  |                                   |           |       | Soils                        | 0.00                          | U-234           | 3.47E-05                            |
|  |                                   |           |       | Packaging Material, Steel    | 525.14                        | U-235           | 4.59E-07                            |

## **Waste Stream Description**

"Spent salt from the direct oxide reduction (DOR) process. Other salts which become IDC 454X for disposal include salt from bad DOR run (IDC 365), MSE salt, Ca, Zn, K (IDC 404), Gibson salt (IDC 412), DOR salt-unoxidized calcium (IDC 414), Zn-Mg alloy metal (IDC 416), Pu chloride mixed salt (IDC 415) and DOR salt – oxidized calcium (IDC 454)"

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

## **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                  | -          |           |  |     |                           |              |                      |                  |
|----------|------------------|------------|-----------|--|-----|---------------------------|--------------|----------------------|------------------|
| HQ ID    | RL-W236          | Stream Nar | ne 202A I | Bldg TRU Waste                               |     |                           |              | Inventor             | y Date 9/30/2002 |
| Local ID | N/A              | Handli     | ng CH     | Final Waste Form Heterogeneous Deb           | ris | Waste Matrix Code S5440   | Activity Con | _<br>centrations Dec | ayed to CY 2002  |
| •        |                  | _          | •         |  |     |                           |              |                      |                  |
| Final Wa | ste Form Descrip | otors      |           |  |     | Waste Material Parameters |              | Final Form R         | adionuclides     |
| Categ    | ory: Defense TF  | RU Waste   | Source:   | Facility/Equipment Operation and Maintenance |     |                           | Average      |                      | Typical          |
|          | <u> </u>         |            |           | Waste  |     |                           | Density      |                      | Concentration    |

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 320.9  | 0.0   | 320.9 |
| Standard Waste Box   |                    | 247.0  | 0.0   | 247.0 |
|                      | As-Generated Total | 567.9  | 0.0   | 567.9 |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 320.9  | 0.0   | 320.9 |
| Standard Waste Box |                  | 247.0  | 0.0   | 247.0 |
|                    | Final Form Total | 567.9  | 0.0   | 567.9 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 619.28                        |
| Aluminum-Base Metal/Alloys     | 122.62                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 41.43                         |
| Cellulosics                    | 64.29                         |
| Rubber                         | 25.55                         |
| Plastics                       | 70.99                         |
| Solidified, Inorganic Matrix   | 10.39                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 10.17                         |
| Packaging Material, Steel      | 141.00                        |
| Packaging Material, Plastic    | 21.43                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 4.42E-02                            |
| Pu-238  | 4.33E-02                            |
| Pu-239  | 1.54E+00                            |
| Pu-240  | 3.46E-01                            |
| Pu-241  | 6.98E+00                            |
| Pu-242  | 2.08E-05                            |
| Sr-90   | 4.13E-02                            |
| U-234   | 3.51E-13                            |
| U-235   | 1.57E-14                            |
| U-238   | 3.42E-13                            |

## **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights of final waste form are unknown.

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W237          | Stream Name | 202-AL | Bldg TRU Waste                |                    |               |        |               | Inventory Date        | 9/30/200      | )2 |
|----------|------------------|-------------|--------|-------------------------------|--------------------|---------------|--------|---------------|-----------------------|---------------|----|
| Local ID | N/A              | Handling    | СН     | Final Waste Form Heterogeneou | us Debris Waste Ma | atrix Code    | S5440  | Activity Conc | entrations Decayed to | <b>CY</b> 200 | )2 |
| Final Wa | ste Form Descrip | tors        |        |                               | Waste Ma           | aterial Parar | neters |               | Final Form Radionu    | clides        |    |

200.1

Facility/Equipment Operation and Maintenance

200.1

## Waste Volume Detail (m3)

Category:

Defense TRU Waste

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| 55 Gallon Drum       | 198.2  | 0.0   | 198.2 |  |  |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |  |  |

Waste

As-Generated Total

Source:

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 198.2  | 0.0   | 198.2 |  |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |  |
|                    | Final Form Total | 200.1  | 0.0   | 200.1 |  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 553.47                        |
| Aluminum-Base Metal/Alloys     | 87.78                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 42.97                         |
| Cellulosics                    | 104.11                        |
| Rubber                         | 44.58                         |
| Plastics                       | 106.21                        |
| Solidified, Inorganic Matrix   | 14.90                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 17.83                         |
| Packaging Material, Steel      | 131.22                        |
| Packaging Material, Plastic    | 36.66                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 6.15E-04                            |
| Pu-238  | 1.56E-06                            |
| Pu-239  | 5.58E-05                            |
| Pu-240  | 1.25E-05                            |
| Pu-241  | 2.52E-04                            |
| Pu-242  | 7.52E-10                            |
| Sr-90   | 5.73E-04                            |
| U-234   | 5.74E-09                            |
| U-235   | 2.57E-10                            |
| U-238   | 5.57E-09                            |

## **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified waste in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights of final waste form are unknown.

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W238 | Stream Name | 216-Z-9 | Retrieved Soil         |                        |                 | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|------------------------|------------------------|-----------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Soils | Waste Matrix Code S410 | 0 Activity Cond | centrations Decayed to CY 2002 |
|          |         |             |         |                        |                        |                 |                                |

## **Final Waste Form Descriptors**

|           | •                 |  |
|-----------|-------------------|--|
| Category: | Defense TRU Waste | Facility/Equipment Operation and Maintenance |
|           |                   | Waste  |

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 99.6   | 0.0   | 99.6  |
| As-Generated Total   | 99.6   | 0.0   | 99.6  |

| Final Form Volumes |                  |        |       |       |  |  |
|--------------------|------------------|--------|-------|-------|--|--|
| ContainerType      |                  | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     |                  | 99.6   | 0.0   | 99.6  |  |  |
|                    | Final Form Total | 99.6   | 0.0   | 99.6  |  |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 324.00                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.05E-01                            |
| Cs-137  | 2.92E-03                            |
| Pu-238  | 2.99E-01                            |
| Pu-239  | 3.84E+00                            |
| Pu-240  | 8.53E-01                            |
| Pu-241  | 2.11E+01                            |
| Pu-242  | 4.93E-05                            |
| Sr-90   | 2.67E-03                            |

### **Waste Stream Description**

Waste consists of soil contaminated with TRU solutions. Soil is contained in a 0.3 mm polyethylene bag within an inner container. The outer container is a standard 55-gallon drum. Vermiculite is a packing material between the inner and outer container.

### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights of final waste form are unknown.

Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights of final waste form are unknown.

Waste Stream ID: RL-T104 Appendix J DOE/TRU-2006-3344

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RL-W239<br>N/A   | Stream Naı<br>Handli |         | TRU Waste Final Waste Form Heterogeneous Deb       | oris | Waste Matrix Code S5440   | Activity Con       | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|------------------|----------------------|---------|--|------|---------------------------|--------------------|-------------------------------------|
| Final Wa          | ste Form Descrip | otors                |         |  |      | Waste Material Parameters | ·                  | adionuclides                        |
| Categ             | gory: Defense TF | RU Waste             | Source: | Facility/Equipment Operation and Maintenance Waste | ]    |                           | Average<br>Density | Typical<br>Concentration            |

#### Waste Volume Detail (m3)

55 Gallon Drum

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 5.0    | 0.0   | 5.0   |
|                      | As-Generated Total | 5.0    | 0.0   | 5.0   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

**Final Form Total** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 552.00                        |
| Aluminum-Base Metal/Alloys     | 87.00                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 43.00                         |
| Cellulosics                    | 105.00                        |
| Rubber                         | 45.00                         |
| Plastics                       | 107.00                        |
| Solidified, Inorganic Matrix   | 15.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 18.00                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Cs-137  | 8.61E-05                            |  |  |  |
| Pu-238  | 8.95E-05                            |  |  |  |
| Pu-239  | 3.19E-03                            |  |  |  |
| Pu-240  | 7.17E-04                            |  |  |  |
| Pu-241  | 1.45E-02                            |  |  |  |
| Pu-242  | 4.32E-08                            |  |  |  |
| Sr-90   | 8.03E-05                            |  |  |  |
| U-234   | 6.53E-09                            |  |  |  |
| U-235   | 2.92E-10                            |  |  |  |
| U-238   | 6.34E-09                            |  |  |  |

## **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

5.0

5.0

5.0

0.0

0.0

### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights of final waste form are unknown.

Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights of final waste form are unknown.

Waste Stream ID: RL-T105 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W240           | Stream Name 222-9 | S TRU Waste  |                           |                    |                 | ory Date 9/30/2002    |
|----------|-------------------|-------------------|--|---------------------------|--------------------|-----------------|-----------------------|
| Local ID | N/A               | Handling Ch       | Final Waste Form Heterogeneous Debris              | Waste Matrix Code S5440   | Activity Cor       | ncentrations De | ecayed to CY 2002     |
| Final Wa | ste Form Descrip  | otors             |  | Waste Material Parameters |                    | Final Form      | Radionuclides         |
| Categ    | ory: Defense TF   | RU Waste Source   | Facility/Equipment Operation and Maintenance Waste |                           | Average<br>Density |                 | Typical Concentration |
| Waste Vo | olume Detail (m3) | •                 |  | Material Parameter        | (kg/m3)            | Isotope         | (Ci/m3)               |
|          |                   | ,                 |  | Iron-Base Metal/Alloys    | 621.46             | Am-241          | 1.70E-04              |
| As-Ge    | nerated Volumes   |                   |  | AL : D AA ( 1/A)          | 100.77             | 0 407           | 4.005.04              |

| ContainerType      |                    | Stored | Proj. | Total    |
|--------------------|--------------------|--------|-------|----------|
| 55 Gallon Drum     |                    | 44.3   | 0.0   | 44.3     |
| Standard Waste Box |                    | 36.1   | 0.0   | 36.1     |
|                    | As-Generated Total | 80.4   | 0.0   | 80.4     |
|                    | As-Generated Total | 00.4   | 0.0   | <u> </u> |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 44.3   | 0.0   | 44.3  |
| Standard Waste Box |                  | 36.1   | 0.0   | 36.1  |
|                    | Final Form Total | 80.4   | 0.0   | 80.4  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 621.46                        |
| Aluminum-Base Metal/Alloys     | 123.77                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 41.38                         |
| Cellulosics                    | 62.98                         |
| Rubber                         | 24.92                         |
| Plastics                       | 69.82                         |
| Solidified, Inorganic Matrix   | 10.24                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 9.92                          |
| Packaging Material, Steel      | 141.33                        |
| Packaging Material, Plastic    | 20.93                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Final Form Radionuclides            |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| 1.70E-04                            |  |  |  |  |  |  |
| 4.86E-04                            |  |  |  |  |  |  |
| 2.11E-03                            |  |  |  |  |  |  |
| 7.51E-02                            |  |  |  |  |  |  |
| 1.68E-02                            |  |  |  |  |  |  |
| 3.39E-01                            |  |  |  |  |  |  |
| 1.01E-06                            |  |  |  |  |  |  |
| 4.53E-04                            |  |  |  |  |  |  |
| 1.17E-02                            |  |  |  |  |  |  |
| 5.57E-07                            |  |  |  |  |  |  |
| 5.72E-08                            |  |  |  |  |  |  |
| 6.16E-10                            |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified waste in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights of final waste form are unknown.

Waste Stream ID: RL-T106 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W241 Stream Name 233-S TRU Waste  |             |            |             |                              |                               |                 | ory Date 9/30/2002                  |
|--|-------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form    | Heterogen  | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |             |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste  Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operatior | n and Main | tenance     | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |             |            |             | Iron-Base Metal/Alloys       | 552.00                        | Cs-137          | 8.79E-05                            |
| As-Generated Volumes   | 1           |            |             | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-238          | 2.04E-02                            |
| ContainerType  | Stored      | Proj.      | Total       | Other Metal/Alloys           | 0.00                          | Pu-239          | 7.28E-01                            |
| 55 Gallon Drum   | 8.1         | 0.0        | 8.1         | Other Inorganic Materials    | 43.00                         | Pu-240          | 1.63E-01                            |
| As-Generated Total   | 8.1         | 0.0        | 8.1         | Cellulosics                  | 105.00                        | Pu-241          | 3.30E+00                            |
|  |             |            |             | Rubber                       | 45.00                         | Pu-242          | 9.80E-06                            |
| Final Form Volumes   |             |            |             | Plastics                     | 107.00                        | Sr-90           | 8.19E-05                            |
| ContainerType  | Stored      | Proj.      | Total       | Solidified, Inorganic Matrix | 15.00                         |                 | •                                   |
| 55 Gallon Drum   | 8.1         | 0.0        | 8.1         | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 8.1         | 0.0        | 8.1         | Vitrified                    | 0.00                          |                 |                                     |
|  |             |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |             |            |             | Soils                        | 18.00                         |                 |                                     |
|  |             |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |             |            |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |             |            |             | Packaging Material, Lead     | 0.00                          |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T107 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          | _               | _            |            |  |                         |                    | _               |                          |
|----------|-----------------|--------------|------------|--|-------------------------|--------------------|-----------------|--------------------------|
| HQ ID    | RL-W242         | Stream Name  | 234-5Z TRI | U Waste                                    |                         |                    | Inventor        | y Date 9/30/2002         |
| Local ID | N/A             | Handling     | CH         | Final Waste Form Heterogeneous Debris      | Waste Matrix Code S5440 | Activity Con       | centrations Dec | ayed to CY 2002          |
|          |                 |              |            |  |                         |                    | Final Form R    | adionuclides             |
| Categ    | ory: Defense TF | RU Waste Sou | urce: Fac  | cility/Equipment Operation and Maintenance |                         | Average<br>Density |                 | Typical<br>Concentration |

#### Waste Volume Detail (m3)

| Stored | Proj.            | Total                    |
|--------|------------------|--------------------------|
| 2901.4 | 0.0              | 2901.4                   |
| 3254.7 | 0.0              | 3254.7                   |
| 6156.1 | 0.0              | 6156.1                   |
|        | 2901.4<br>3254.7 | 2901.4 0.0<br>3254.7 0.0 |

| Final Form Volumes |                  |        |       |        |
|--------------------|------------------|--------|-------|--------|
| ContainerType      |                  | Stored | Proj. | Total  |
| 55 Gallon Drum     |                  | 2901.4 | 0.0   | 2901.4 |
| Standard Waste Box |                  | 3254.7 | 0.0   | 3254.7 |
|                    | Final Form Total | 6156.1 | 0.0   | 6156.1 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 633.79                        |
| Aluminum-Base Metal/Alloys     | 130.30                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 41.10                         |
| Cellulosics                    | 55.51                         |
| Rubber                         | 21.36                         |
| Plastics                       | 63.22                         |
| Solidified, Inorganic Matrix   | 9.40                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 8.48                          |
| Packaging Material, Steel      | 143.16                        |
| Packaging Material, Plastic    | 18.07                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.42E-04                            |
| Cs-137  | 6.03E-03                            |
| Pu-238  | 1.58E+01                            |
| Pu-239  | 2.65E+00                            |
| Pu-240  | 5.92E-01                            |
| Pu-241  | 1.19E+01                            |
| Pu-242  | 3.57E-05                            |
| Sr-90   | 5.62E-03                            |
| Th-232  | 1.01E-08                            |
| U-233   | 6.76E-05                            |
| U-234   | 1.37E-04                            |
| U-235   | 3.07E-06                            |
| U-238   | 5.70E-05                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The contact-handled TRU waste from Building 2345Z was reported in Waste Nos. RL-T146 and RL-T150 in Revision 1 of the WTWBIR. This waste is reported in RL-T107 in Revision 2; RL-T146 and RL-T150 have been deleted in Revision 2.

Waste Stream ID: RL-T108 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RL-W243<br>N/A   | Stream Name | <u> </u> | 00 West Area TRU Waste  Final Waste Form Heterogeneous Debris | 1 | Waste Matrix Code S5440   | Activity Con                  |         | y Date 9/30/2002<br>ayed to CY 2002 |
|-------------------|------------------|-------------|----------|---|---|---------------------------|-------------------------------|---------|-------------------------------------|
|                   |                  |             |          |   |   | Waste Material Parameters | ŕ                             |         | adionuclides                        |
| Cateo             | gory: Defense Ti | RU Waste S  | ource:   | Facility/Equipment Operation and Maintenance Waste            |   | Material Parameter        | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 8.3    | 0.0   | 8.3   |
| Standard Waste Box   | 184.3  | 0.0   | 184.3 |
| As-Generated Total   | 192.6  | 0.0   | 192.6 |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 8.3    | 0.0   | 8.3   |
| Standard Waste Box   | 184.3  | 0.0   | 184.3 |
| Final Form Total     | 192.6  | 0.0   | 192.6 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 700.02                        |
| Aluminum-Base Metal/Alloys     | 165.36                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 39.56                         |
| Cellulosics                    | 15.44                         |
| Rubber                         | 4.62                          |
| Plastics                       | 27.78                         |
| Solidified, Inorganic Matrix   | 4.86                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.78                          |
| Packaging Material, Steel      | 153.01                        |
| Packaging Material, Plastic    | 2.75                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 1.02E-04                            |
| Pu-238  | 8.72E-02                            |
| Pu-239  | 4.82E-02                            |
| Pu-240  | 1.08E-02                            |
| Pu-241  | 2.18E-01                            |
| Pu-242  | 6.51E-07                            |
| Sr-90   | 9.45E-05                            |
| U-234   | 1.52E-07                            |
| U-235   | 6.79E-09                            |
| U-238   | 1.48E-07                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixtures, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights of final waste form are unknown.

DOE/TRU-2006-3344 Appendix J **RL-T109** Waste Stream ID:

### THI WASTE BASELINE INVENTORY WASTE DECELLE

|                   | INU   | WASIL     | JAJLLI    | AL HAALIAH   | OKT WASTE FROTTEE            |                               |            |   |
|-------------------|---|-----------|-----------|--------------|------------------------------|-------------------------------|------------|---|
| HQ ID<br>Local ID | RL-W244 Stream Name 308 Bldg TRU Waste  N/A Handling CH Final Waste | aste Form | Heteroger | neous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Wa          | aste Form Descriptors   |           |           |              | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| `                 | gory: Defense TRU Waste Source: Other/Multiple Solume Detail (m3)   | ources    |           |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Ge             | enerated Volumes  |           |           |              | Iron-Base Metal/Alloys       | 641.43                        | Am-241     | 3.71E-03                                |
|                   | inerType  | Stored    | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 134.35                        | Cs-137     | 5.41E-04                                |
|                   | llon Drum   | 8.3       |           |              | Other Metal/Alloys           | 0.00                          | Pu-238     | 1.75E-02                                |
|                   | ard Waste Box   | 11.4      |           |              | Other Inorganic Materials    | 40.92                         | Pu-239     | 6.24E-01                                |
| Otarra            | and Tracto Box  |           | 0.0       |              | Cellulosics                  | 50.89                         | Pu-240     | 1.40E-01                                |
|                   | As-Generated Total  | 19.7      | 0.0       | 19.7         | Rubber                       | 19.15                         | Pu-241     | 2.83E+00                                |
| Final             | Form Volumes  |           |           | 1            | Plastics                     | 59.13                         | Pu-242     | 8.43E-06                                |
|                   | inerType  | Stored    | Proj.     | Total        | Solidified, Inorganic Matrix | 8.87                          | Sr-90      | 5.04E-04                                |
|                   | llon Drum   | Storeu    | •         |              | Cement (Solidified)          | 0.00                          | U-233      | 5.54E-03                                |

8.3

11.4

19.7

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

8.3

11.4

19.7

**Final Form Total** 

0.0

0.0

0.0

0.00

0.00

7.59

144.30

16.30

0.00

0.00

U-234

U-235

U-238

1.18E-03

1.57E-05

4.03E-04

#### **Waste Stream Description**

55 Gallon Drum

Standard Waste Box

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaving. The remainder is expected to be low-level waste upon assaving. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Wastes in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reductin is projected. Upper and lower weights for final waste form are unknown.

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W245 | Stream Name | 324, 325 | 5 and 327 Bldg Oper TRU Waste         |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|----------|---------------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН       | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440 | Activity Con- | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

**RL-T110** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 364.8  | 0.0   | 364.8 |
| Standard Waste Box   | 129.2  | 0.0   | 129.2 |
| As-Generated Total   | 494.0  | 0.0   | 494.0 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 364.8  | 0.0   | 364.8 |
| Standard Waste Box |                  | 129.2  | 0.0   | 129.2 |
|                    | Final Form Total | 494.0  | 0.0   | 494.0 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 592.46                        |
| Aluminum-Base Metal/Alloys     | 108.42                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 42.06                         |
| Cellulosics                    | 80.52                         |
| Rubber                         | 33.30                         |
| Plastics                       | 85.35                         |
| Solidified, Inorganic Matrix   | 12.23                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 13.29                         |
| Packaging Material, Steel      | 137.01                        |
| Packaging Material, Plastic    | 27.64                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 5.61E-03                            |
| 1.05E-02                            |
| 1.34E-01                            |
| 2.86E+00                            |
| 6.41E-01                            |
| 1.30E+01                            |
| 3.86E-05                            |
| 9.80E-03                            |
| 5.17E-06                            |
| 2.30E-04                            |
| 2.76E-03                            |
| 1.33E-04                            |
| 3.86E-04                            |
|                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The contact-handled TRU waste from Building 327C was reported as Waste No. RL-T111A in Revision 1 of the WTWBIR. RL-T111A has been deleted in Revision 2 of the WTWBIR.

Waste Stream ID: RL-T112 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                   | INOT   | VAOTE  | AOLLII | AL HAALIAI  | OKT WAGILT KOILL             |                               |            |   |
|-------------------|--|--------|--------|-------------|------------------------------|-------------------------------|------------|---|
| HQ ID<br>Local ID | RL-W246 Stream Name 340 Bldg Oper and R&D N/A Handling CH Final Wa   |        |        | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Wa          | aste Form Descriptors  |        |        |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| ·                 | gory: Defense TRU Waste Source: Other/Multiple  urces  |        |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Ge             | enerated Volumes   |        |        |             | Iron-Base Metal/Alloys       | 650.16                        | Am-241     | 4.42E-01                                |
|                   | ninerType  | Stored | Proj.  | Total       | Aluminum-Base Metal/Alloys   | 138.97                        | Cs-137     | 8.48E-04                                |
|                   | illon Drum   | 50.3   | 0.0    |             | Other Metal/Alloys           | 0.00                          | Pu-238     | 2.02E-01                                |
|                   | ard Waste Box  | 87.4   | 0.0    |             | Other Inorganic Materials    | 40.72                         | Pu-239     | 1.36E+00                                |
|                   |  |        |        |             | Cellulosics                  | 45.61                         | Pu-240     | 3.04E-01                                |
|                   | As-Generated Total   | 137.7  | 0.0    | 137.7       | Rubber                       | 16.62                         | Pu-241     | 6.15E+00                                |
| Final             | Form Volumes   |        |        |             | Plastics                     | 54.46                         | Pu-242     | 1.83E-05                                |
|                   | ninerType  | Stored | Proi.  | Total       | Solidified, Inorganic Matrix | 8.27                          | Sr-90      | 7.91E-04                                |

50.3

87.4

137.7

50

87.4

137.7

**Final Form Total** 

0.0

0.0

0.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

Vitrified

Soils

0.00

0.00

0.00

6.58

145.59

0.00

0.00

Th-232

U-233

U-234

U-235

U-238

1.95E-06

5.71E-05

5.34E-03

3.71E-04

2.32E-04

#### **Waste Stream Description**

55 Gallon Drum

Standard Waste Box

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T113 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID         RL-W247         Stream Name         100 Areas and 200 Areas           Local ID         N/A         Handling         CH         Final Was |           |       |       |                              |                               |            | Inventory Date 9/30/2002<br>ncentrations Decayed to CY 2002 |  |  |
|--|-----------|-------|-------|------------------------------|-------------------------------|------------|---|--|--|
| Final Waste Form Descriptors   | _         |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides   |  |  |
| Category: Defense TRU Waste Source: R&D/R&D Laborat  Waste Volume Detail (m3)  | ory Waste |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)                         |  |  |
| As-Generated Volumes   |           |       |       | Iron-Base Metal/Alloys       | 641.29                        | Cs-137     | 2.02E-04  |  |  |
| ContainerType  | Stored    | Proj. | Total | Aluminum-Base Metal/Alloys   | 134.27                        | Pu-238     | 1.26E-03  |  |  |
| 55 Gallon Drum   | 18.1      | 0.0   | 18.1  | Other Metal/Alloys           | 0.00                          | Pu-239     | 1.44E-02  |  |  |
| Standard Waste Box   | 24.7      | 0.0   | 24.7  | Other Inorganic Materials    | 40.92                         | Pu-240     | 3.23E-03  |  |  |
|  |           |       |       | Cellulosics                  | 50.98                         | Pu-241     | 6.53E-02  |  |  |
| As-Generated Total   | 42.8      | 0.0   | 42.8  | Rubber                       | 19.19                         | Pu-242     | 1.95E-07  |  |  |
| Final Form Volumes   |           |       |       | Plastics                     | 59.21                         | Sr-90      | 1.89E-04  |  |  |
| ContainerType  | Stored    | Proj. | Total | Solidified, Inorganic Matrix | 8.88                          |            |   |  |  |
| 55 Gallon Drum   | 18.1      | 0.0   | 18.1  | Cement (Solidified)          | 0.00                          |            |   |  |  |
| Standard Waste Box   | 24.7      | 0.0   | 24.7  | Vitrified                    | 0.00                          |            |   |  |  |
|  |           |       |       | Solidified, Organic Matrix   | 0.00                          |            |   |  |  |
| Final Form Total   | 42.8      | 0.0   | 42.8  | Soils                        | 7.61                          |            |   |  |  |
|  |           |       |       | Packaging Material, Steel    | 144.27                        |            |   |  |  |
|  |           |       |       | Packaging Material, Plastic  | 16.34                         |            |   |  |  |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T114 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID RL-W248 Stream Name 209 E Bldg TRU Waste                               |  |             |             |                              |                               |                 | ory Date 9/30/2002                  |  |  |
|--|--|-------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|--|--|
| ocal ID N/A Handling CH Final Wa   | ste Form                                     | -leterogene | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ncentrations Decayed to CY 2002     |  |  |
| Final Waste Form Descriptors   |  |             |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |  |  |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste                                   |             |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes   |  |             |             | Iron-Base Metal/Alloys       | 567.01                        | Cs-137          | 2.60E-03                            |  |  |
| ContainerType  | Stored                                       | Proj.       | Total       | Aluminum-Base Metal/Alloys   | 94.95                         | Pu-238          | 1.35E-01                            |  |  |
| 55 Gallon Drum   | 17.7   | 0.0         | 17.7        | Other Metal/Alloys           | 0.00                          | Pu-239          | 4.78E+00                            |  |  |
| Standard Waste Box   | 1.9  | 0.0         | 1.9         | Other Inorganic Materials    | 42.65                         | Pu-240          | 1.07E+00                            |  |  |
|  | <u>                                     </u> |             |             | Cellulosics                  | 95.92                         | Pu-241          | 2.16E+01                            |  |  |
| As-Generated Total   | 19.6   | 0.0         | 19.6        | Rubber                       | 40.66                         | Pu-242          | 6.45E-05                            |  |  |
| Final Form Volumes   |  |             |             | Plastics                     | 98.97                         | Sr-90           | 2.43E-03                            |  |  |
| ContainerType  | Stored                                       | Proj.       | Total       | Solidified, Inorganic Matrix | 13.97                         |                 |                                     |  |  |
| 55 Gallon Drum   | 17.7   | 0.0         | 17.7        | Cement (Solidified)          | 0.00                          |                 |                                     |  |  |
| Standard Waste Box   | 1.9  | 0.0         | 1.9         | Vitrified                    | 0.00                          |                 |                                     |  |  |
|  | l  |             |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |  |  |
| Final Form Total   | 19.6   | 0.0         | 19.6        | Soils                        | 16.25                         |                 |                                     |  |  |
|  |  |             |             | Packaging Material, Steel    | 133.23                        |                 |                                     |  |  |
|  |  |             |             | Packaging Material, Plastic  | 33.53                         |                 |                                     |  |  |
|  |  |             |             | Packaging Material, Lead     | 0.00                          |                 |                                     |  |  |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

0.00

Packaging Material, Steel Plug

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

| HQ ID<br>Local ID | RL-W249<br>N/A    | Stream Name 2<br>Handling | 231-Z I<br>CH | Bldg TRU Waste Final Waste Form Heterogeneous Debris | Waste Matrix Code   S5440 | A addition C       | Inventor           | y Date 9/30/2002      |
|-------------------|-------------------|---------------------------|---------------|--|---------------------------|--------------------|--------------------|-----------------------|
| Local ID          | IN/A              | Handling                  | CIT           | Final Waste Form lieterogeneous Debits               | Waste Matrix Code 33440   | Activity C         | concentrations Dec | ayed to C1 2002       |
|                   | ste Form Descrip  |                           |               |  | Waste Material Parameters |                    | Final Form R       | adionuclides          |
| Categ             | ory: Defense TF   | RU Waste Sou              | urce:         | R&D/R&D Laboratory Waste                             |                           | Average            |                    | Typical               |
| Waste Vo          | olume Detail (m3) |                           |               |  | Material Parameter        | Density<br>(kg/m3) | Isotope            | Concentration (Ci/m3) |

| As-Generated Volumes |        |       |       |  |  |
|----------------------|--------|-------|-------|--|--|
| ContainerType        | Stored | Proj. | Total |  |  |
| 55 Gallon Drum       | 193.   | 2 0.0 | 193.2 |  |  |
| Standard Waste Box   | 832.   | 2 0.0 | 832.2 |  |  |

**As-Generated Total** 1025.4 1025.4

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 193.2  | 0.0   | 193.2 |
| Standard Waste Box | 832.2  | 0.0   | 832.2 |

1025.4 1025.4 Final Form Total

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 677.55                        |
| Aluminum-Base Metal/Alloys     | 153.47                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 40.08                         |
| Cellulosics                    | 29.04                         |
| Rubber                         | 8.71                          |
| Plastics                       | 39.80                         |
| Solidified, Inorganic Matrix   | 6.40                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 3.39                          |
| Packaging Material, Steel      | 149.67                        |
| Packaging Material, Plastic    | 7.95                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.53E-01                            |
| Cs-137  | 1.89E-04                            |
| Pu-238  | 8.31E-02                            |
| Pu-239  | 1.20E+00                            |
| Pu-240  | 2.69E-01                            |
| Pu-241  | 6.08E+00                            |
| Pu-242  | 1.62E-05                            |
| Sr-90   | 1.73E-04                            |
| Th-232  | 4.35E-08                            |
| U-234   | 4.03E-04                            |
| U-235   | 1.14E-06                            |
| U-238   | 4.45E-05                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaving. The remainder is expected to be low-level waste upon assaving. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

Appendix J DOE/TRU-2006-3344 Waste Stream ID: **RL-T116** 

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W250 Stream Name 303C Bldg TRU Waste Local ID N/A Handling CH Final Wa | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5440    | Activity (                    |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|------------|-----------|-------------|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3)     | tory Waste |           |             | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys     | 552.00                        | Cs-137     | 9.50E-01                                |
| ContainerType   | Stored     | Proi.     | Total       | Aluminum-Base Metal/Alloys | 87.00                         | Pu-238     | 3.92E-01                                |
| 55 Gallon Drum  | 11.0       | 0.0       | 11.0        | Other Metal/Alloys         | 0.00                          | Pu-239     | 1.39E+01                                |
|   | <u> </u>   |           |             | Other Inorganic Materials  | 43.00                         | Pu-240     | 3.12E+00                                |
| As-Generated Total  | 11.0       | 0.0       | 11.0        | Cellulosics                | 105.00                        | Pu-241     | 6.31E+01                                |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 11.0   | 0.0   | 11.0  |
|                    |        |       |       |

|                  |      | 0.0 |      |  |
|------------------|------|-----|------|--|
|                  |      |     |      |  |
| Final Form Total | 11.0 | 0.0 | 11.0 |  |

| waste material i arameters     |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 552.00                        |
| Aluminum-Base Metal/Alloys     | 87.00                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 43.00                         |
| Cellulosics                    | 105.00                        |
| Rubber                         | 45.00                         |
| Plastics                       | 107.00                        |
| Solidified, Inorganic Matrix   | 15.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 18.00                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|         | auromaon                            |
|---------|-------------------------------------|
| Isotope | Typical<br>Concentration<br>(Ci/m3) |
| Cs-137  | 9.50E-01                            |
| Pu-238  | 3.92E-01                            |
| Pu-239  | 1.39E+01                            |
| Pu-240  | 3.12E+00                            |
| Pu-241  | 6.31E+01                            |
| Pu-242  | 1.88E-04                            |
| Sr-90   | 8.84E-01                            |
| Th-232  | 3.21E-03                            |
| U-233   | 4.27E+00                            |
| U-234   | 5.10E-03                            |
| U-235   | 5.24E-04                            |
| U-238   | 5.64E-06                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of highefficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove noncertifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

|   | AOIL L    | AOLLII    | 12 11112   | MORT WASTET ROTTLE           |                               |            |   |
|---|-----------|-----------|------------|------------------------------|-------------------------------|------------|---|
| HQ ID RL-W251 Stream Name 300 Area R&D TRU Waste Local ID N/A Handling CH Final Was |           | Heterogen | eous Debri | S Waste Matrix Code S5440    | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |           |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Laborat  Waste Volume Detail (m3)       | ory Waste |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |           |           |            | Iron-Base Metal/Alloys       | 572.20                        | Am-241     | 1.45E-01                                |
| ContainerType   | Stored    | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 97.69                         | Cs-137     | 1.52E-03                                |
| 55 Gallon Drum  | 227.8     |           | 227.8      | Other Metal/Alloys           | 0.00                          | Pu-238     | 1.32E-01                                |
| Standard Waste Box  | 34.2      | 0.0       | 34.2       | Other Inorganic Materials    | 42.53                         | Pu-239     | 5.82E-01                                |
|   |           |           |            | Cellulosics                  | 92.78                         | Pu-240     | 1.30E-01                                |
| As-Generated Total  | 262.0     | 0.0       | 262.0      | Rubber                       | 39.16                         | Pu-241     | 2.63E+00                                |
| Final Form Volumes  |           |           |            | Plastics                     | 96.19                         | Pu-242     | 7.85E-06                                |
| ContainerType   | Stored    | Proj.     | Total      | Solidified, Inorganic Matrix | 13.62                         | Sr-90      | 1.42E-03                                |

227 8

34.2

262.0

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

15.65

134.00

32.33

0.00

0.00

Th-232

U-233

U-234

U-235

U-238

1.26E-05

9.48E-05

3.18E-03

6.33E-05

6.00E-04

Final Form Total

227 8

34.2

262.0

0.0

0.0

0.0

#### **Waste Stream Description**

55 Gallon Drum

Standard Waste Box

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaving. The remainder is expected to be low-level waste upon assaving. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The contact-handled TRU waste from Building 318 was reported as Waste No. RL-T117 in Revision 1 of the WTWBIR. This waste is reported in RL-T118 in Revision 2; RL-T117 has been deleted.

| HQ ID    | RL-W252          | Stream Name | RU Cons | truction Debris                      |   |                           |              | Inventory Date 9/30/200       | )2 |
|----------|------------------|-------------|---------|--------------------------------------|---|---------------------------|--------------|-------------------------------|----|
| Local ID | N/A              | Handling    | СН      | Final Waste Form Heterogeneous Debri | S | Waste Matrix Code S5440   | Activity Con | centrations Decayed to CY 200 | )2 |
|          |                  |             |         |                                      |   |                           |              |                               |    |
| Final Wa | ste Form Descrip | tors        |         |                                      |   | Waste Material Parameters |              | Final Form Radionuclides      |    |

#### Waste Volume Detail (m3)

| As-Generated Volumes |        | •     | •     |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 44.5   | 0.0   | 44.5  |
| Standard Waste Box   | 89.3   | 0.0   | 89.3  |
| As-Generated Total   | 133.8  | 0.0   | 133.8 |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 44.5   | 0.0   | 44.5  |
| Standard Waste Box   | 89.3   | 0.0   | 89.3  |
| Final Form Total     | 133.8  | 0.0   | 133.8 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 655.24                        |
| Aluminum-Base Metal/Alloys     | 141.66                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 40.60                         |
| Cellulosics                    | 42.54                         |
| Rubber                         | 15.16                         |
| Plastics                       | 51.74                         |
| Solidified, Inorganic Matrix   | 7.93                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 5.99                          |
| Packaging Material, Steel      | 146.35                        |
| Packaging Material, Plastic    | 13.11                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.93E-02                            |
| Cs-137  | 5.40E-04                            |
| Pu-238  | 2.71E-02                            |
| Pu-239  | 3.37E-01                            |
| Pu-240  | 7.50E-02                            |
| Pu-241  | 1.81E+00                            |
| Pu-242  | 4.45E-06                            |
| Sr-90   | 4.92E-04                            |
| U-234   | 4.22E-09                            |
| U-235   | 1.89E-10                            |
| U-238   | 4.11E-09                            |
|         |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

# Waste Stream ID: RL-T121 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W253 Stream Name 105-KE Bldg TRU Waste
Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| RH Canister          |                           | 53.4   | 0.0   | 53.4  |
| ,                    |                           | -      |       |       |
|                      | <b>As-Generated Total</b> | 53.4   | 0.0   | 53.4  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 53.4   | 0.0   | 53.4  |
|                    | Final Form Total | 53.4   | 0.0   | 53.4  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 710.00                        |
| Aluminum-Base Metal/Alloys     | 164.50                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 41.00                         |
| Cellulosics                    | 22.50                         |
| Rubber                         | 6.60                          |
| Plastics                       | 34.60                         |
| Solidified, Inorganic Matrix   | 5.70                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.10                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 5.63E-01                            |
| Pu-238  | 1.78E-02                            |
| Pu-239  | 1.17E-01                            |
| Pu-240  | 5.83E-02                            |
| Pu-241  | 2.89E+00                            |
| Pu-242  | 1.72E-06                            |
| Sr-90   | 5.25E-01                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

Waste Stream ID: RL-T122 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID       | RL-W254            | Stream Na | ne 105-C | , 105KE, and 105-N Bldg TRU Wast   | e              |                            |              | Inventor             | y Date 9/30/2002 |
|-------------|--------------------|-----------|----------|------------------------------------|----------------|----------------------------|--------------|----------------------|------------------|
| Local ID    | N/A                | Handli    | ng CH    | Final Waste Form Hetero            | geneous Debris | Waste Matrix Code S5440    | Activity Con | -<br>centrations Dec | ayed to CY 2002  |
| Final Wa    | ste Form Descrip   | ators     |          |                                    |                | Waste Material Parameters  | _            | Final Form R         | adionuclides     |
| i illai vva | iste i omi bescrip | 1013      |          |                                    |                | waste material i arameters |              | I IIIai I OIIII N    | adionaciaes      |
| Categ       | ory: Defense TF    | RU Waste  | Source:  | Facility/Equipment Operation and N | √laintenance   |                            | Average      |                      | Typical          |
|             | •                  |           |          | Waste                              |                |                            | Density      |                      | Concentration    |

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 2.7    | 0.0   | 2.7   |
| Standard Waste Box   | 26.6   | 0.0   | 26.6  |
| As-Generated Total   | 29.3   | 0.0   | 29.3  |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 2.7    | 0.0   | 2.7   |
| Standard Waste Box   | 26.6   | 0.0   | 26.6  |
|                      | 29.3   | 0.0   | 29.3  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 692.43                        |
| Aluminum-Base Metal/Alloys     | 161.34                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 39.73                         |
| Cellulosics                    | 20.04                         |
| Rubber                         | 4.41                          |
| Plastics                       | 31.84                         |
| Solidified, Inorganic Matrix   | 5.38                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.66                          |
| Packaging Material, Steel      | 151.88                        |
| Packaging Material, Plastic    | 4.50                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 3.06E-01                            |
| Pu-238  | 5.22E-03                            |
| Pu-239  | 1.85E-01                            |
| Pu-240  | 4.17E-02                            |
| Pu-241  | 8.39E-01                            |
| Pu-242  | 2.50E-06                            |
| Sr-90   | 2.85E-01                            |
| Th-232  | 3.78E-06                            |
| U-234   | 4.98E-02                            |
| U-235   | 5.13E-03                            |
| U-238   | 5.52E-05                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

| HQ ID RL-W255 Stream Name Argonne Nat Lab Type 1                             | TRU Waste  | ;         |             |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa   | ste Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 552.00                        | Pu-238          | 7.18E-01                            |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-239          | 2.55E+01                            |
| 55 Gallon Drum   | 0.6        | 0.0       |             | Other Metal/Alloys           | 0.00                          | Pu-240          | 5.74E+00                            |
| 50 Gailen 21am   | 0.0        | 0.0       | 0.0         | Other Inorganic Materials    | 43.00                         | Pu-241          | 1.16E+02                            |
| As-Generated Total   | 0.6        | 0.0       | 0.6         | Cellulosics                  | 105.00                        | Pu-242          | 3.46E-04                            |
| Final Form Volumes   |            |           |             | Rubber                       | 45.00                         | Th-232          | 1.44E-05                            |
| ContainerType  | Stored     | Proj.     | Total       | Plastics                     | 107.00                        | U-234           | 9.56E-02                            |
| 55 Gallon Drum   | 0.6        | 0.0       |             | Solidified, Inorganic Matrix | 15.00                         | U-235           | 9.81E-03                            |
| oo danon Brann   | 0.0        | 0.0       | 0.0         | Cement (Solidified)          | 0.00                          | U-238           | 1.06E-04                            |
| Final Form Total   | 0.6        | 0.0       | 0.6         | Vitrified                    | 0.00                          |                 |                                     |
|  |            |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |           |             | Soils                        | 18.00                         |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

131.00

37.00

0.00

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

| IQ ID    | RL-W256          | Stream Name Argonne Nat Lab Type II | TRU Waste   | e         |             |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|------------------|-------------------------------------|-------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID  | N/A              | Handling RH Final Wa                | ste Form    | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Wa | ste Form Descrip | tors                                |             |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
|          | pory: Defense TF |                                     | itory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes  |                                     |             |           |             | Iron-Base Metal/Alloys       | 744.80                        | Cs-137          | 2.78E+01                            |
|          | inerType         |                                     | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 117.60                        | Sr-90           | 2.58E+01                            |
| RH Ca    |                  |                                     | 0.9         | 0.0       | 0.9         | Other Metal/Alloys           | 0.00                          | Th-232          | 1.56E-04                            |
|          |                  |                                     |             |           |             | Other Inorganic Materials    | 57.50                         | U-233           | 2.03E-01                            |
|          |                  | As-Generated Total                  | 0.9         | 0.0       | 0.9         | Cellulosics                  | 141.30                        |                 |                                     |
| Final F  | Form Volumes     |                                     |             |           |             | Rubber                       | 60.30                         |                 |                                     |
|          | inerType         |                                     | Stored      | Proj.     | Total       | Plastics                     | 144.70                        |                 |                                     |
| RH Ca    |                  |                                     | 0.9         | 0.0       | 0.9         | Solidified, Inorganic Matrix | 20.70                         |                 |                                     |
|          |                  |                                     |             |           |             | Cement (Solidified)          | 0.00                          |                 |                                     |
|          |                  | Final Form Total                    | 0.9         | 0.0       | 0.9         | Vitrified                    | 0.00                          |                 |                                     |
|          |                  |                                     |             |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|          |                  |                                     |             |           |             | Soils                        | 24.40                         |                 |                                     |
|          |                  |                                     |             |           |             | Packaging Material, Steel    | 434.00                        |                 |                                     |
|          |                  |                                     |             |           |             | Packaging Material, Plastic  | 0.00                          |                 |                                     |
|          |                  |                                     |             |           |             | Packaging Material Lead      | 464 00                        |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

0.00

Packaging Material, Steel Plug

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

This waste stream was erroneously identified as contact-handled TRU waste in Revision 1 of the WTWBIR. It has been reclassified as remote-handled waste in Revision 2 of the WTWBIR.

| HQ ID                        | RL-W257         | Stream Nar | ne Argoni | ne Nat Lab Type III TRU Waste      |      |                           |            |        | Inventory      | Date 9/30/  | /2002 |
|------------------------------|-----------------|------------|-----------|------------------------------------|------|---------------------------|------------|--------|----------------|-------------|-------|
| Local ID                     | N/A             | Handli     | ng CH     | Final Waste Form Heterogeneous Del | oris | Waste Matrix Code S5440   | Activity ( | Concer | ntrations Deca | yed to CY   | 2002  |
| Final Waste Form Descriptors |                 |            |           |                                    |      | Waste Material Parameters |            |        | Final Form Ra  | adionuclide | s     |
| Categ                        | ory: Defense TF | RU Waste   | Source:   | R&D/R&D Laboratory Waste           |      |                           | Average    |        |                | Typical     | ı     |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 15.2   | 0.0   | 15.2  |
|                      | As-Generated Total | 15.2   | 0.0   | 15.2  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 15.2   | 0.0   | 15.2  |
|                      | Final Form Total   | 15.2   | 0.0   | 15.2  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 552.00                        |
| Aluminum-Base Metal/Alloys     | 87.00                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 43.00                         |
| Cellulosics                    | 105.00                        |
| Rubber                         | 45.00                         |
| Plastics                       | 107.00                        |
| Solidified, Inorganic Matrix   | 15.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 18.00                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.05E+00                            |
| Cs-137  | 1.05E-04                            |
| Pu-238  | 7.29E+00                            |
| Pu-239  | 2.19E+01                            |
| Pu-240  | 1.13E+01                            |
| Pu-241  | 7.47E+02                            |
| Pu-242  | 4.94E-03                            |
| Sr-90   | 9.58E-05                            |
| Th-232  | 1.70E-04                            |
| U-233   | 2.92E-01                            |
|         |                                     |

#### Waste Stream Description

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of highefficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove noncertifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

DOE/TRU-2006-3344 Appendix J **RL-T127** Waste Stream ID:

### TOU WASTE BASELINE INVENTORY WASTE DECELLE

|  | OWAGILL        | AOLLII    | AL HAVEIAL  | JKT WAGTET KOTTLE          |                               |            |                                     |
|--|----------------|-----------|-------------|----------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID RL-W258 Stream Name Babcock Wilcox TRU Local ID N/A Handling CH Fina | J Waste        | Heterogen | eous Debris | Waste Matrix Code S5440    | Activity Co                   |            | ory Date 9/30/2002                  |
| Final Waste Form Descriptors   | _              |           |             | Waste Material Parameters  | -                             | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D La  Waste Volume Detail (m3)   | boratory Waste |           |             | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                |           |             | Iron-Base Metal/Alloys     | 617.29                        | Am-241     | 1.14E+00                            |
| ContainerType  | Stored         | Proj.     | Total       | Aluminum-Base Metal/Alloys | 121.57                        | Cs-137     | 3.20E-03                            |
| 55 Gallon Drum   | 163.9          | 0.0       |             | Other Metal/Alloys         | 0.00                          | Pu-238     | 9.82E-02                            |
| Standard Waste Box   | 119.7          | 0.0       |             | Other Inorganic Materials  | 41.48                         | Pu-239     | 3.51E+00                            |
| otaliaala viaote 20%   |                | 0.0       |             | Cellulosics                | 65.49                         | Pu-240     | 7.85E-01                            |
| As-Generated T   | otal 283.6     | 0.0       | 283.6       | Rubber                     | 26.13                         | Pu-241     | 1.59E+01                            |
| Final Form Volumos   |                |           |             | Plastics                   | 72.05                         | Pu-242     | 4.73E-05                            |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 163.   | 9 0.0 | 163.9 |
| Standard Waste Box | 119.   | 7 0.0 | 119.7 |
|                    |        |       |       |

283.6 Final Form Total 283.6 0.0

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 617.29                        |
| Aluminum-Base Metal/Alloys     | 121.57                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 41.48                         |
| Cellulosics                    | 65.49                         |
| Rubber                         | 26.13                         |
| Plastics                       | 72.05                         |
| Solidified, Inorganic Matrix   | 10.53                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 10.40                         |
| Packaging Material, Steel      | 140.71                        |
| Packaging Material, Plastic    | 21.89                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| i iliai i oilii itaalollaollaoo |                                     |  |  |  |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| Am-241                          | 1.14E+00                            |  |  |  |  |  |  |
| Cs-137                          | 3.20E-03                            |  |  |  |  |  |  |
| Pu-238                          | 9.82E-02                            |  |  |  |  |  |  |
| Pu-239                          | 3.51E+00                            |  |  |  |  |  |  |
| Pu-240                          | 7.85E-01                            |  |  |  |  |  |  |
| Pu-241                          | 1.59E+01                            |  |  |  |  |  |  |
| Pu-242                          | 4.73E-05                            |  |  |  |  |  |  |
| Sr-90                           | 2.98E-03                            |  |  |  |  |  |  |
| U-234                           | 2.82E-04                            |  |  |  |  |  |  |
| U-235                           | 5.96E-07                            |  |  |  |  |  |  |
| U-238                           | 3.32E-05                            |  |  |  |  |  |  |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaving. The remainder is expected to be low-level waste upon assaving. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T128 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID RL-W259 Stream Name Bartlesville TRU Waste Local ID N/A Handling CH Final Wa | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co.                  |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|------------|-----------|-------------|------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters    | riching co.                   |            | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3)       | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 552.00                        | Am-241     | 1.70E+00                                |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Cs-137     | 5.15E-02                                |
| 55 Gallon Drum   | 0.4        |           | 0.4         | Other Metal/Alloys           | 0.00                          | Pu-238     | 1.63E-06                                |
|  |            |           |             | Other Inorganic Materials    | 43.00                         | Pu-239     | 5.81E-05                                |
| As-Generated Total   | 0.4        | 0.0       | 0.4         | Cellulosics                  | 105.00                        | Pu-240     | 1.30E-05                                |
| Final Form Volumes   |            |           |             | Rubber                       | 45.00                         | Pu-241     | 2.63E-04                                |
| ContainerType  | Stored     | Proj.     | Total       | Plastics                     | 107.00                        | Pu-242     | 7.85E-10                                |
| 55 Gallon Drum   | 0.4        | 0.0       | 0.4         | Solidified, Inorganic Matrix | 15.00                         | Sr-90      | 4.80E-02                                |
|  |            |           | <u>-</u>    | Cement (Solidified)          | 0.00                          | \ <u>-</u> |   |
| Final Form Total   | 0.4        | 0.0       | 0.4         | Vitrified                    | 0.00                          |            |   |
|  |            |           |             | Solidified, Organic Matrix   | 0.00                          |            |   |
|  |            |           |             | Soils                        | 18.00                         |            |   |
|  |            |           |             | Packaging Material, Steel    | 131.00                        |            |   |
|  |            |           |             | Packaging Material, Plastic  | 37.00                         |            |   |
|  |            |           |             | Packaging Material, Lead     | 0.00                          |            |   |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

| HQ ID    | RL-W260          | Stream Name | Battelle | Columbus TRU Waste                    |                        |               | Inventory Date        | 9/30/2002 |
|----------|------------------|-------------|----------|---------------------------------------|------------------------|---------------|-----------------------|-----------|
| Local ID | N/A              | Handling    | СН       | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5   | Activity Cond | entrations Decayed to | CY 2002   |
| Final Wa | ste Form Descrin | tors        |          |                                       | Waste Material Paramet | ters          | Final Form Radionu    | clides    |

Defense TRU Waste R&D/R&D Laboratory Waste Category: Source:

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 11.6   | 0.0   | 11.6  |
| Standard Waste Box   | 17.1   | 0.0   | 17.1  |
| As-Generated Total   | 28.7   | 0.0   | 28.7  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 11.6   | 0.0   | 11.6  |
| Standard Waste Box | 17.1   | 0.0   | 17.1  |

**Final Form Total** 28.7 0.0 28.7

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 644.02                        |
| Aluminum-Base Metal/Alloys     | 135.72                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 40.86                         |
| Cellulosics                    | 49.32                         |
| Rubber                         | 18.40                         |
| Plastics                       | 57.75                         |
| Solidified, Inorganic Matrix   | 8.69                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 7.29                          |
| Packaging Material, Steel      | 144.68                        |
| Packaging Material, Plastic    | 15.71                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|--|--|
| Cs-137  | 2.61E-03                            |  |  |  |  |  |  |
| Pu-238  | 4.48E+00                            |  |  |  |  |  |  |
| Pu-239  | 4.75E-01                            |  |  |  |  |  |  |
| Pu-240  | 1.06E-01                            |  |  |  |  |  |  |
| Pu-241  | 2.14E+00                            |  |  |  |  |  |  |
| Pu-242  | 6.40E-06                            |  |  |  |  |  |  |
| Sr-90   | 2.44E-03                            |  |  |  |  |  |  |
| U-234   | 2.67E-04                            |  |  |  |  |  |  |
| U-235   | 1.85E-05                            |  |  |  |  |  |  |
| U-238   | 5.74E-05                            |  |  |  |  |  |  |

#### Waste Stream Description

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaving. The remainder is expected to be low-level waste upon assaving. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The Type II Battelle Columbus waste reported as Waste No. RL-T130 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Type I waste reported in RL-T129. RL-T130 has been replaced n Revision 2 of the WTWBIR with TRU waste generated by Bettis Atomic Power Laboratory.

Waste Stream ID: RL-T130 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W261 Stream Name Bettis TRU Waste                                  |            |           |             |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste | •         |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 552.00                        | Cs-137          | 4.02E-01                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-238          | 3.92E-03                            |
| 55 Gallon Drum  | 0.2        | •         |             | Other Metal/Alloys           | 0.00                          | Pu-239          | 1.40E-01                            |
|   |            | I         |             | Other Inorganic Materials    | 43.00                         | Pu-240          | 3.13E-02                            |
| As-Generated Total  | 0.2        | 0.0       | 0.2         | Cellulosics                  | 105.00                        | Pu-241          | 6.31E-01                            |
| Final Form Volumes  |            |           |             | Rubber                       | 45.00                         | Pu-242          | 1.88E-06                            |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 107.00                        | Sr-90           | 3.75E-01                            |
| 55 Gallon Drum  | 0.2        | _         |             | Solidified, Inorganic Matrix | 15.00                         | U-234           | 3.99E-04                            |
|   |            |           |             | Cement (Solidified)          | 0.00                          | U-235           | 4.09E-05                            |
| Final Form Total  | 0.2        | 0.0       | 0.2         | Vitrified                    | 0.00                          | U-238           | 4.40E-07                            |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |            |           |             | Soils                        | 18.00                         |                 |                                     |
|   |            |           |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|   |            |           |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

Packaging Material, Lead
Packaging Material, Steel Plug

0.00

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

The Type II Battelle Columbus waste reported as Waste No. RL-T130 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Type I waste reported in RL-T129. RL-T130 has been replaced n Revision 2 of the WTWBIR with TRU waste generated by Bettis Atomic Power Laboratory.

Appendix J DOE/TRU-2006-3344 Waste Stream ID: **RL-T131** 

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W262 Stream Name Energy Systems Group TF Local ID N/A Handling CH Final Was |           |       | eous Debri | S Waste Matrix Code S5440  | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-----------|-------|------------|----------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |           |       |            | Waste Material Parameters  |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Laborate Waste Volume Detail (m3)        | ory Waste |       |            | Material Parameter         | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |           |       |            | Iron-Base Metal/Alloys     | 552.00                        | Am-241     | 2.70E-02                                |
| ContainerType  | Stored    | Proj. | Total      | Aluminum-Base Metal/Alloys | 87.00                         | Cs-137     | 2.70E-05                                |
| 55 Gallon Drum   | 30.2      |       |            | Other Metal/Alloys         | 0.00                          | Pu-238     | 1.48E-02                                |
|  |           |       |            | Other Inorganic Materials  | 43.00                         | Pu-239     | 1.84E-01                                |
| As-Generated Total   | 30.2      | 0.0   | 30.2       | Cellulosics                | 105.00                        | Pu-240     | 4.09E-02                                |
| Final Form Volumes   |           |       |            | Rubber                     | 45.00                         | Pu-241     | 9.82E-01                                |

Total

#### 30.2 0.0 30.2 **Final Form Total** 30.2 0.0 30.2

Stored

Proi.

### Plastics 107.00 Solidified, Inorganic Matrix 15.00 Cement (Solidified) 0.00 Vitrified 0.00 Solidified, Organic Matrix 0.00 Soils 18.00 Packaging Material, Steel 131.00 37.00 Packaging Material, Plastic 0.00 Packaging Material, Lead Packaging Material, Steel Plug 0.00

## 2.43E-06 Pu-242 Sr-90 2.46E-05 U-234 2.73E-04 U-235 2.78E-05 U-238 5.71E-07

#### **Waste Stream Description**

ContainerType

55 Gallon Drum

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of highefficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove noncertifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T132 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| -   |            |           |             |                              |                               |            |   |
|---|------------|-----------|-------------|------------------------------|-------------------------------|------------|---|
| HQ ID RL-W263 Stream Name Exxon TRU Waste Local ID N/A Handling CH Final Wa | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste | •         |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 552.00                        | Cs-137     | 4.31E-03                                |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-238     | 2.74E+00                                |
| 55 Gallon Drum  | 28.7       | •         |             | Other Metal/Alloys           | 0.00                          | Pu-239     | 9.78E+01                                |
|   |            |           |             | Other Inorganic Materials    | 43.00                         | Pu-240     | 2.19E+01                                |
| As-Generated Total  | 28.7       | 0.0       | 28.7        | Cellulosics                  | 105.00                        | Pu-241     | 4.41E+02                                |
| Final Form Volumes  |            |           |             | Rubber                       | 45.00                         | Pu-242     | 1.32E-03                                |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 107.00                        | Sr-90      | 4.01E-03                                |
| 55 Gallon Drum  | 28.7       | •         |             | Solidified, Inorganic Matrix | 15.00                         | U-234      | 8.54E-03                                |

28.7

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

131.00 37.00

0.00

0.00

U-235

U-238

3.81E-04

8.30E-03

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

**Final Form Total** 

28.7

0.0

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

The Exxon waste reported as Waste No. RL-T133 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Exxon waste reported in RL-T132. RL-T133 has been replaced in Revision 2 of the WTWBIR with TRU waste generated by the International Atomic Energy Agency.

Waste Stream ID: RL-T133 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W264 Stream Name International Atomic Ener                          | gy Agency | TRU Was   | ste         |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|-----------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form  | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |           |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Source Unknown  Waste Volume Detail (m3) |           |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys       | 552.00                        | Am-241          | 1.30E-02                            |
| ContainerType  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Cs-137          | 4.77E-04                            |
| 55 Gallon Drum   | 0.2       | 0.0       |             | Other Metal/Alloys           | 0.00                          | Pu-238          | 6.07E-03                            |
|  |           |           |             | Other Inorganic Materials    | 43.00                         | Pu-239          | 2.22E-01                            |
| As-Generated Total   | 0.2       | 0.0       | 0.2         | Cellulosics                  | 105.00                        | Pu-240          | 4.97E-02                            |
| Final Form Volumes   |           |           | 1           | Rubber                       | 45.00                         | Pu-241          | 8.68E-01                            |
| ContainerType  | Stored    | Proj.     | Total       | Plastics                     | 107.00                        | Pu-242          | 2.99E-06                            |
| 55 Gallon Drum   | 0.2       | 0.0       | <del></del> | Solidified, Inorganic Matrix | 15.00                         | Sr-90           | 4.35E-04                            |
|  |           |           |             | Cement (Solidified)          | 0.00                          | <u> </u>        |                                     |
| Final Form Total   | 0.2       | 0.0       | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|  |           |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |           |           |             | Soils                        | 18.00                         |                 |                                     |
|  |           |           |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |           |           |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |           |           |             | Packaging Material, Lead     | 0.00                          |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

0.00

Packaging Material, Steel Plug

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

The Exxon waste reported as Waste No. RL-T133 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Exxon waste reported in RL-T132. RL-T133 has been replaced in Revision 2 of the WTWBIR with TRU waste generated by the International Atomic Energy Agency.

| HQ ID RL-W265 Stream Name Lawrence Berkeley Nat L                            |            |            |             |                              |                               |                 | ory Date 9/30/2002                  |
|--|------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Heterogene | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste | •          |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |            |             | Iron-Base Metal/Alloys       | 552.00                        | Cs-137          | 3.71E+00                            |
| ContainerType  | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-238          | 1.63E-02                            |
| 55 Gallon Drum   | 0.2        |            | 0.2         | Other Metal/Alloys           | 0.00                          | Pu-239          | 5.82E-01                            |
|  |            |            |             | Other Inorganic Materials    | 43.00                         | Pu-240          | 1.30E-01                            |
| As-Generated Total   | 0.2        | 0.0        | 0.2         | Cellulosics                  | 105.00                        | Pu-241          | 2.63E+00                            |
| Final Form Volumes   |            |            |             | Rubber                       | 45.00                         | Pu-242          | 7.85E-06                            |
| ContainerType  | Stored     | Proj.      | Total       | Plastics                     | 107.00                        | Sr-90           | 3.46E+00                            |
| 55 Gallon Drum   | 0.2        |            | 0.2         | Solidified, Inorganic Matrix | 15.00                         |                 |                                     |
|  |            |            |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0        | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|  |            |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |            |             | Soils                        | 18.00                         |                 |                                     |
|  |            |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |            |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

Waste Stream ID: RL-T135 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W266 Stream Name Lawrence Livermore TRU Local ID N/A Handling CH Final Wa |             | Heterogen | eous Debr   | is Waste Matrix Code S5440   | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-------------|-----------|-------------|------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors   |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3)        | itory Waste | •         |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes   |             |           |             | Iron-Base Metal/Alloys       | 552.00                        | Cs-137     | 2.32E-04                                |
| ContainerType  | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 87.00                         | Pu-238     | 3.82E-02                                |
| 55 Gallon Drum   | 0.4         | •         |             | Other Metal/Alloys           | 0.00                          | Pu-239     | 1.36E+00                                |
| oo dallon brain  | 0.1         | 0.0       | <b>V.</b> 1 | Other Inorganic Materials    | 43.00                         | Pu-240     | 3.04E-01                                |
| As-Generated Total   | 0.4         | 0.0       | 0.4         | Cellulosics                  | 105.00                        | Pu-241     | 6.14E+00                                |
| Final Form Volumes   |             |           |             | Rubber                       | 45.00                         | Pu-242     | 1.83E-05                                |
| ContainerType  | Stored      | Proj.     | Total       | Plastics                     | 107.00                        | Sr-90      | 2.16E-04                                |
| 55 Gallon Drum   | 0.4         | •         |             | Solidified, Inorganic Matrix | 15.00                         | U-234      | 9.97E-03                                |

0.4

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

131.00 37.00

0.00

0.00

U-235

U-238

1.78E-05

1.11E-03

### Waste Stream Description

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

**Final Form Total** 

0.4

0.0

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

The Type II Lawrence Livermore National Laboratories waste reported as Waste No. RL-T136 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Type I waste reported in RL-T135. RL-T136 has been deleted in Revision 2 of the WTWBIR.

| HQ ID    | RL-W267           | Stream Name K | err McGe | ee TRU Waste                          |                           |                    | Inventor        | y Date 9/30/2002      |
|----------|-------------------|---------------|----------|---------------------------------------|---------------------------|--------------------|-----------------|-----------------------|
| Local ID | N/A               | Handling      | CH       | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440   | Activity Con       | centrations Dec | ayed to CY 2002       |
| Final Wa | ste Form Descrip  | otors         |          |                                       | Waste Material Parameters |                    | Final Form R    | adionuclides          |
| Categ    | ory: Defense TF   | RU Waste Sou  | rce: R8  | kD/R&D Laboratory Waste               |                           | Average            |                 | Typical               |
| Wests V  | aluma Datail (m2) |               |          |                                       | Material Parameter        | Density<br>(kg/m3) | Isotope         | Concentration (Ci/m3) |

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 151.6  | 0.0   | 151.6 |
| As-Generated Total   | 151.6  | 0.0   | 151.6 |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 151.6  | 0.0   | 151.6 |
|                      |        |       |       |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 552.00                        |
| Aluminum-Base Metal/Alloys     | 87.00                         |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 43.00                         |
| Cellulosics                    | 105.00                        |
| Rubber                         | 45.00                         |
| Plastics                       | 107.00                        |
| Solidified, Inorganic Matrix   | 15.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 18.00                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.16E+00                            |
| Cs-137  | 5.22E-03                            |
| Pu-238  | 2.29E+00                            |
| Pu-239  | 2.84E+01                            |
| Pu-240  | 6.33E+00                            |
| Pu-241  | 1.54E+02                            |
| Pu-242  | 3.76E-04                            |
| Sr-90   | 4.77E-03                            |
| U-234   | 4.11E-05                            |
| U-235   | 1.84E-06                            |
| U-238   | 3.99E-05                            |
|         |                                     |

#### Waste Stream Description

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of high-efficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

DOE/TRU-2006-3344 Appendix J Waste Stream ID: **RL-T140** 

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|                   |                   |   | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |           |              |                              |                               |         |                                     |
|-------------------|-------------------|---|---|-----------|--------------|------------------------------|-------------------------------|---------|-------------------------------------|
| HQ ID<br>Local ID | RL-W268<br>N/A    | Stream Name Rocky Flats TRU Waste  Handling CH Final Wa | ste Form                                | Heterogen | neous Debris | Waste Matrix Code S5440      | Activity Co                   |         | ory Date 9/30/2002                  |
| Final Wa          | aste Form Descrip | otors   | L                                       |           |              | Waste Material Parameters    | •                             |         | Radionuclides                       |
| Categ<br>Waste V  | gory: Defense Ti  | ]   | tory Waste                              |           |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge             | enerated Volumes  |   |   |           |              | Iron-Base Metal/Alloys       | 552.00                        | Am-241  | 7.19E+00                            |
|                   | inerType          |   | Stored                                  | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 87.00                         | Cs-137  | 5.21E-03                            |
|                   | llon Drum         |   | 138.1                                   | 0.0       |              | Other Metal/Alloys           | 0.00                          | Pu-238  | 2.39E+00                            |
|                   |                   |   |   |           |              | Other Inorganic Materials    | 43.00                         | Pu-239  | 3.02E+01                            |
|                   |                   | As-Generated Total                                      | 138.1                                   | 0.0       | 138.1        | Cellulosics                  | 105.00                        | Pu-240  | 7.44E+00                            |
| Final I           | Form Volumes      |   |   |           |              | Rubber                       | 45.00                         | Pu-241  | 1.44E+02                            |
|                   | inerType          |   | Stored                                  | Proj.     | Total        | Plastics                     | 107.00                        | Pu-242  | 6.40E-04                            |
|                   | llon Drum         |   | 120.1                                   | 110).     |              | Solidified, Inorganic Matrix | 15.00                         | Sr-90   | 4.77E-03                            |

138.1

138.1

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

18.00

131.00 37.00

0.00

0.00

U-234

U-235

U-238

1.90E-01

3.54E-04

2.12E-02

138.

138.1

**Final Form Total** 

0.0

0.0

### Waste Stream Description

55 Gallon Drum

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of highefficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A. Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 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. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove noncertifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

The Type II Rocky Flats waste reported as Waste No. RL-T141 in Revision 1 of the WTWBIR has been merged in Revision 2 with the Type I waste reported in RL-T140. RL-T141 has been deleted in Revision 2 of the WTWBIR.

Waste Stream ID: RL-T143 Appendix J DOE/TRU-2006-3344

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                              | -           | _      |                                      |                  |                           |              |                          |                  |
|----------|------------------------------|-------------|--------|--------------------------------------|------------------|---------------------------|--------------|--------------------------|------------------|
| HQ ID    |                              |             |        |                                      |                  |                           |              |                          | y Date 9/30/2002 |
| Local ID | N/A                          | Handling    | CH     | Final Waste Form Heterogeneous Debri | ncentrations Dec | ayed to CY 2002           |              |                          |                  |
| _        |                              | •           |        |                                      |                  |                           |              |                          |                  |
| Final Wa | Final Waste Form Descriptors |             |        |                                      |                  | Waste Material Parameters | Final Form R | Final Form Radionuclides |                  |
| Categ    | ory: Defense TF              | RU Waste Se | ource: | R&D/R&D Laboratory Waste             |                  |                           | Average      |                          | Typical          |
|          | <u>-</u>                     | <u> </u>    |        |                                      | •                |                           | Density      |                          | Concentration    |
| Waste Vo | olume Detail (m3)            | )           |        |                                      |                  | Material Parameter        | (kg/m3)      | Isotope                  | (Ci/m3)          |

# Waste Volume Detail (m3)

| As-Generated volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 23.7   | 0.0   | 23.7  |
| Standard Waste Box   | 380.0  | 0.0   | 380.0 |
| As-Generated Total   | 403.7  | 0.0   | 403.7 |
| Final Form Volumes   |        |       |       |

| Final Form volumes |      |      |       |       |
|--------------------|------|------|-------|-------|
| ContainerType      | Stor | ed   | Proj. | Total |
| 55 Gallon Drum     | :    | 23.7 | 0.0   | 23.7  |
| Standard Waste Box | 38   | 30.0 | 0.0   | 380.0 |
|                    |      |      |       |       |

Final Form Total 403.7 0.0 403.7

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 697.61                        |
| Aluminum-Base Metal/Alloys     | 164.09                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 39.61                         |
| Cellulosics                    | 16.90                         |
| Rubber                         | 2.91                          |
| Plastics                       | 29.06                         |
| Solidified, Inorganic Matrix   | 5.02                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.06                          |
| Packaging Material, Steel      | 152.65                        |
| Packaging Material, Plastic    | 3.30                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 2.74E-04                            |
| Pu-238  | 4.69E-03                            |
| Pu-239  | 1.67E-01                            |
| Pu-240  | 3.74E-02                            |
| Pu-241  | 7.57E-01                            |
| Pu-242  | 2.25E-06                            |
| Sr-90   | 2.56E-04                            |
| U-234   | 9.55E-05                            |
| U-235   | 5.84E-06                            |
| U-238   | 6.69E-05                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The Type I and II GE Pleasanton waste reported in Waste Nos. RL-T138 and RL-T139 and RL-139, and the GE Vallecitos waste reported in RL-T144 in Revision 1 of the WTWBIR have been merged in Revision 2 with the waste reported in RL-T143. RL-T138, RL-T139, and RL-T144 have been deleted in Revision 2.

0.00

0.00

# Waste Stream ID: RL-T145 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID    | RL-W270 Stream Name Ward TRU Waste                           |             |           |             |                              |                               | Invent     | ory Date 9/30/200                   |
|----------|--|-------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| ocal ID  | N/A Handling CH Final Wa                                     | ste Form    | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ecayed to CY 200                    |
| Final Wa | ste Form Descriptors   |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
|          | pory: Defense TRU Waste Source: R&D/R&D Laborate Detail (m3) | itory Waste | •         |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | nerated Volumes  |             |           |             | Iron-Base Metal/Alloys       | 678.47                        | Cs-137     | 1.80E-03                            |
|          | inerType   | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 153.95                        | Pu-238     | 7.57E-03                            |
|          | lon Drum   | 129.8       |           |             | Other Metal/Alloys           | 0.00                          | Pu-239     | 2.70E-01                            |
|          | ard Waste Box  | 581.4       |           |             | Other Inorganic Materials    | 40.06                         | Pu-240     | 6.03E-02                            |
|          |  |             |           |             | Cellulosics                  | 28.48                         | Pu-241     | 1.22E+00                            |
|          | As-Generated Total   | 711.2       | 0.0       | 711.2       | Rubber                       | 8.44                          | Pu-242     | 3.64E-06                            |
| Final F  | Form Volumes   |             |           |             | Plastics                     | 39.31                         | Sr-90      | 1.68E-03                            |
|          | inerType   | Stored      | Proj.     | Total       | Solidified, Inorganic Matrix | 6.33                          | Th-232     | 1.37E-07                            |
|          | lon Drum   | 129.8       |           |             | Cement (Solidified)          | 0.00                          | U-234      | 1.26E-04                            |
|          | ard Waste Box  | 581.4       |           |             | Vitrified                    | 0.00                          | U-235      | 7.46E-06                            |
|          | ······································                       |             |           | <u>-</u> _  | Solidified, Organic Matrix   | 0.00                          | U-238      | 1.75E-05                            |
|          | Final Form Total   | 711.2       | 0.0       | 711.2       | Soils                        | 3.28                          | <u> </u>   |                                     |
|          |  |             |           |             | Packaging Material, Steel    | 149.80                        |            |                                     |
|          |  |             |           |             | Packaging Material Plastic   | 7 73                          |            |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

Packaging Material, Lead
Packaging Material, Steel Plug

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.A, Radioactive Waste Management. Of the TRU waste stored from May 1970 to December 1986 that has not been assayed and redesignated as low level waste (by December 1993), 50% of the waste stored in 55-gallon drums, and 85% of the waste stored in boxes are expected to be TRU waste upon assaying. The remainder is expected to be low-level waste upon assaying. The reported volumes and radionuclides have been adjusted to take this assumption into account. Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Waste in boxes will be opened, and size-reduced to fit into TRUPACT-II SWBs. No volume reduction is projected. Upper and lower weights for final waste form are unknown.

The Ward waste reported in Waste Nos. RL-T144 in Revision 1 of the WTWBIR has been merged in Revision 2 with the waste reported in RL-T145. RL-T144 has been deleted in Revision 2.

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Waste in drums will be opened, examined to remove non-certifiable waste, and then packaged into new drums. The projection is that repackaging will result in a 35% increase in the volume of TRU-certified wastes in drums (WHC-SD-W026-SDRD-001, Rev. 3). Upper and lower weights for final waste form are unknown.

#### Appendix J Waste Stream ID: RL-T147 TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W271          | Stream Name | 325 and | nd 325B Bldg Op TRU Caisson Waste     | Inventory Date 9/30/2     | 2002          |                             |      |
|----------|------------------|-------------|---------|---------------------------------------|---------------------------|---------------|-----------------------------|------|
| Local ID | N/A              | Handling    | RH      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440   | Activity Cond | centrations Decayed to CY 2 | 2002 |
| Final Wa | ste Form Descrip | tors        |         |                                       | Waste Material Parameters |               | Final Form Radionuclides    | ŝ    |

Defense TRU Waste Facility/Equipment Operation and Maintenance Category: Source: Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 27.6   | 0.0   | 27.6  |
|                      | As-Generated Total | 27.6   | 0.0   | 27.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 27.6   | 0.0   | 27.6  |
|                    | Final Form Total | 27.6   | 0.0   | 27.6  |

#### waste Materiai Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 709.30                        |
| Aluminum-Base Metal/Alloys     | 165.40                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 40.70                         |
| Cellulosics                    | 20.10                         |
| Rubber                         | 5.50                          |
| Plastics                       | 32.40                         |
| Solidified, Inorganic Matrix   | 5.40                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.70                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
|         | , ,                                 |  |  |  |  |
| Am-241  | 3.58E-01                            |  |  |  |  |
| Cs-137  | 7.51E+01                            |  |  |  |  |
| Pu-238  | 1.89E+00                            |  |  |  |  |
| Pu-239  | 1.24E+01                            |  |  |  |  |
| Pu-240  | 6.17E+00                            |  |  |  |  |
| Pu-241  | 2.91E+02                            |  |  |  |  |
| Pu-242  | 1.82E-04                            |  |  |  |  |
| Sr-90   | 7.00E+01                            |  |  |  |  |
| Th-232  | 1.06E-05                            |  |  |  |  |
| U-233   | 1.85E-02                            |  |  |  |  |
| U-234   | 4.41E-02                            |  |  |  |  |
| U-235   | 4.30E-03                            |  |  |  |  |
| U-238   | 3.23E-04                            |  |  |  |  |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

The remote-handled TRU waste from Building 324 reported under Waste No. RL-T147 in Revision 1 of the WTWBIR has been merged with waste reported under RL-T148. This waste is reported in RL-T148 in Revision 2.

6.81E-02

6.66E-03

4.78E-04

U-234

U-235

U-238

0.00

0.00

19.80

434.00 0.00

464.00

0.00

#### Waste Stream ID: RL-T148

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                   | IRU V                                   | VASIE                          | BASELII    | NE INVENI | ORY WASTE PROFILE            |                               |                 |                                     |
|----------|-------------------|---|--------------------------------|------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID    | RL-W272           | Stream Name 324 and 327C TRU Wast       | e                              |            |           |                              |                               | Invent          | ory Date 9/30/2002                  |
| Local ID | N/A               | Handling RH Final Wa                    | aste Form Heterogeneous Debris |            |           | Waste Matrix Code S5440      | Activity Co                   | oncentrations D | ecayed to CY 2002                   |
| Final Wa | ste Form Descript | ors                                     |                                |            |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Categ    | Defense TRI       | J Waste Source: Facility/Equipmen Waste | t Operatior                    | n and Mair | ntenance  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|          |                   |   |                                |            |           | Iron-Base Metal/Alloys       | 737.60                        | Cs-137          | 1.65E+03                            |
|          | nerated Volumes   |   | 7                              | •          |           | Aluminum-Base Metal/Alloys   | 127.30                        | Pu-238          | 2.38E+00                            |
|          | inerType          |   | Stored                         | Proj.      | Total     | Other Metal/Alloys           | 0.00                          | Pu-239          | 1.56E+01                            |
| RH Ca    | nister            |   | 24.0                           | 0.0        | 24.0      | Other Inorganic Materials    | 54.10                         | Pu-240          | 7.78E+00                            |
|          |                   | As-Generated Total                      | 24.0                           | 0.0        | 24.0      | Cellulosics                  | 116.70                        | Pu-241          | 3.68E+02                            |
|          |                   |   |                                |            |           | Rubber                       | 49.20                         | Pu-242          | 2.29E-04                            |
| Final F  | Form Volumes      |   |                                |            |           | Plastics                     | 121.90                        | Sr-90           | 1.54E+03                            |
|          | inerType          |   | Stored                         | Proj.      | Total     | Solidified, Inorganic Matrix | 17.60                         | Th-232          | 5.37E-05                            |
| RH Ca    | nister            |   | 24.0                           | 0.0        | 24.0      | Cement (Solidified)          | 0.00                          | U-233           | 1.12E-02                            |

24.0

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

The remote-handled TRU waste from Building 324 reported under Waste No. RL-T147 in revision 1 of the WTWBIR has been merged with waste reported under RL-T148 in Revision 2.

24.0

**Final Form Total** 

0.0

### Waste Stream ID: RL-T149 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

325A and 325B R&D TRU Waste **HQ ID** RL-W273 Stream Name Inventory Date 9/30/2002 Final Waste Form Heterogeneous Debris Local ID N/A Handling RH **Waste Matrix Code Activity Concentrations Decayed to CY Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Defense TRU Waste Source: R&D/R&D Laboratory Waste Category:

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 69.4   | 0.0   | 69.4  |
|                      | As-Generated Total | 69.4   | 0.0   | 69.4  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 69.4   | 0.0   | 69.4  |
|                      | Final Form Total   | 69.4   | 0.0   | 69.4  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 707.60                        |
| Aluminum-Base Metal/Alloys     | 167.80                        |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 39.90                         |
| Cellulosics                    | 14.10                         |
| Rubber                         | 2.80                          |
| Plastics                       | 26.80                         |
| Solidified, Inorganic Matrix   | 4.70                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.50                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 2.72E+01                            |
| Pu-238  | 3.89E-03                            |
| Pu-239  | 2.55E-02                            |
| Pu-240  | 1.27E-02                            |
| Pu-241  | 6.01E-01                            |
| Pu-242  | 3.74E-07                            |
| Sr-90   | 2.64E+01                            |
| Th-232  | 5.97E-04                            |
| U-233   | 1.09E-01                            |
| U-234   | 6.48E-05                            |
| U-235   | 6.65E-06                            |
| U-238   | 7.13E-08                            |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

This waste stream has been expanded in Revision 2 of the WTWBIR to report remote-handled waste from both Buildings 325A and 325B.

### Waste Stream ID: RL-W161 Appendix J

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W274 Stream Name 202A Bldg Remote-Hand                                       | led TRU W                      | aste     |          |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|--------------------------------|----------|----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa   | aste Form Heterogeneous Debris |          |          | Waste Matrix Code S5440      | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |                                |          |          | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation                    | and Main | itenance | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| waste volume Detail (ms)  |                                |          |          | Iron-Base Metal/Alloys       | 725.80                        | Cs-137          | 1.40E-01                            |
| As-Generated Volumes  | · ·                            |          |          | Aluminum-Base Metal/Alloys   | 143.30                        | Pu-238          | 2.06E-03                            |
| ContainerType   | Stored<br>5.3                  | Proj.    | Total    | Other Metal/Alloys           | 0.00                          | Pu-239          | 1.35E-02                            |
| RH Canister   |                                | 0.0      | 5.3      | Other Inorganic Materials    | 48.50                         | Pu-240          | 6.73E-03                            |
| As-Generated Total  | 5.3                            | 0.0      | 5.3      | Cellulosics                  | 76.30                         | Pu-241          | 3.18E-01                            |
|   |                                |          |          | Rubber                       | 30.90                         | Pu-242          | 1.98E-07                            |
| Final Form Volumes  |                                |          |          | Plastics                     | 84.50                         | Sr-90           | 1.30E-01                            |
| ContainerType   | Stored                         | Proj.    | Total    | Solidified, Inorganic Matrix | 12.50                         |                 |                                     |
| RH Canister   | 5.3                            | 0.0      | 5.3      | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 5.3                            | 0.0      | 5.3      | Vitrified                    | 0.00                          |                 |                                     |
|   | <u> </u>                       |          | <u>I</u> | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |                                |          |          | Soils                        | 12.20                         |                 |                                     |
|   |                                |          |          | Packaging Material, Steel    | 434.00                        |                 |                                     |
|   |                                |          |          | Packaging Material, Plastic  | 0.00                          |                 |                                     |

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30 % of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, 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 oils 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 and other waste forms.

Packaging Material, Lead

Packaging Material, Steel Plug

464.00

0.00

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final waste form are unknown.

#### Waste Stream ID: **RL-W162**

### Appendix J

| HQ ID RL-W275 Stream Name 202AL and 222S Bldg                                    |               |       |       | DRY WASTE PROFILE            |                               | Invent     | on/ Data 9/30/2002  |  |  |
|--|---------------|-------|-------|------------------------------|-------------------------------|------------|---|--|--|
|  |               |       |       |                              |                               |            | Inventory Date 9/30/2002<br>ncentrations Decayed to CY 2002 |  |  |
| Final Waste Form Descriptors   |               |       |       | Waste Material Parameters    |                               | Final Form | Radionuclides   |  |  |
| Category: Defense TRU Waste Source: Analytical Laborate Waste Volume Detail (m3) | oratory Waste |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)                         |  |  |
| As-Generated Volumes   |               |       |       | Iron-Base Metal/Alloys       | 744.80                        | Cs-137     | 2.88E-01  |  |  |
| ContainerType  | Stored        | Proj. | Total | Aluminum-Base Metal/Alloys   | 117.60                        | Pu-238     | 6.10E-06  |  |  |
| RH Canister  | 18.7          |       |       | Other Metal/Alloys           | 0.00                          | Pu-239     | 4.00E-05  |  |  |
|  |               | 1     |       | Other Inorganic Materials    | 57.50                         | Pu-240     | 1.99E-05  |  |  |
| As-Generated To  | tal 18.7      | 0.0   | 18.7  | Cellulosics                  | 141.30                        | Pu-241     | 9.44E-04  |  |  |
| Final Form Volumes   |               |       |       | Rubber                       | 60.30                         | Pu-242     | 5.87E-10  |  |  |
| ContainerType  | Stored        | Proj. | Total | Plastics                     | 144.70                        | Sr-90      | 2.69E-01  |  |  |
| RH Canister  | 18.7          |       |       | Solidified, Inorganic Matrix | 20.70                         | U-234      | 9.14E-08  |  |  |

18.7

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel Packaging Material, Plastic

Packaging Material, Lead

Packaging Material, Steel Plug

Final Form Total

18.7

0.0

# Cement (Solidified) 0.00

0.00

0.00

24.40 434.00

0.00

464.00 0.00

## U-235 4.09E-09 U-238 8.87E-08

#### **Waste Stream Description**

Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30% of waste in drums is noncombustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Absorbed combustible liquids such as oils have also been placed in some drums. Drums are also used for disposal of highefficiency particulate air filters.

#### **Management Comments**

Inventory is from the site's record solid waste tracking system, a requirement of DOE Order 5820.2A, Radioactive Waste Management. Upper and lower weights of final form are unknown.

#### Waste Stream ID: RL-W407

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W407 Stream Name Future CH-TRU RH and Oversiz                               | zed MLI | LW/TRU   | J(M) Facilities | s (M-91)                     |                               | Invent     | ory Date 9/30/2002                  |
|--|---------|----------|-----------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste For   | rm Und  | categori | zed Metal       | Waste Matrix Code S5420      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |         |          |                 | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Waste Treatment Proces  Waste Volume Detail (m3) | SS      |          |                 | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |          |                 | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 8.28E-02                            |
| ContainerType Store  | ed F    | Proj.    | Total           | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 2.36E-02                            |
| •  | 0.0     | 231.8    |                 | Other Metal/Alloys           | 143.57                        | Pu-239     | 9.01E-01                            |
|  | 0.0     |          |                 | Other Inorganic Materials    | 1.19                          | Pu-240     | 2.02E-01                            |
| As-Generated Total   | 0.0     | 231.8    | 231.8           | Cellulosics                  | 9.52                          | Pu-241     | 2.71E+00                            |
| Final Form Volumes   |         |          |                 | Rubber                       | 0.00                          | Pu-242     | 1.22E-05                            |
| ContainerType Store  | ed F    | Proj.    | Total           | Plastics                     | 17.14                         |            |                                     |
|  | 0.0     | 231.8    |                 | Solidified, Inorganic Matrix | 1.19                          |            |                                     |
|  | 0.0     |          |                 | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 0.0     | 231.8    | 231.8           | Vitrified                    | 0.00                          |            |                                     |
|  |         |          |                 | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |         |          |                 | Soils                        | 0.00                          |            |                                     |
|  |         |          |                 | Packaging Material, Steel    | 154.00                        |            |                                     |

#### **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.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

1.20

0.00

#### **Management Comments**

While not forecasted from 1995 to 1999, additional generation is forecasted from 2000 to 2024.

0.00

0.00

#### Waste Stream ID: RL-W408

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W408 Stream Name Future CH-TRU T Plant                             | Canyon Cle | anout     |             |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final W  | aste Form  | Heterogen | eous Debris | Waste Matrix Code S5900      | Activity Cor                  |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D& Waste Volume Detail (m3) | D Waste    |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           | Ī           | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.12E-05                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 1.28E-05                            |
| Standard Waste Box  | 3.8        |           |             | Other Metal/Alloys           | 28.57                         | Pu-239     | 4.68E-04                            |
|   |            |           |             | Other Inorganic Materials    | 9.47                          | Pu-240     | 1.05E-04                            |
| As-Generated Tota   | 3.8        | 0.0       | 3.8         | Cellulosics                  | 66.67                         | Pu-241     | 1.79E-03                            |
| Final Form Volumes  |            |           |             | Rubber                       | 123.40                        | Pu-242     | 6.32E-09                            |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 33.33                         |            |                                     |
| Standard Waste Box  | 3.8        |           |             | Solidified, Inorganic Matrix | 0.96                          |            |                                     |
|   |            | l         | <u> </u>    | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 3.8        | 0.0       | 3.8         | Vitrified                    | 0.00                          |            |                                     |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |            |           |             | Soils                        | 325.10                        |            |                                     |
|   |            |           |             | Packaging Material, Steel    | 154.00                        |            |                                     |
|   |            |           |             | Packaging Material, Plastic  | 1.20                          |            |                                     |

#### **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.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

While not forecasted from 1995 to 1999, additional generation is forecasted from 2000 to 2024.

0.00

0.00

#### Waste Stream ID: RL-W415

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W415 Stream Name Future CH-MTRU T Pla     | nt Transition |           |             |                              |                               | Invent         | ory Date 9/30/2002                  |
|--|---------------|-----------|-------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID N/A Handling CH Final W                   | aste Form     | Heterogen | eous Debris | Waste Matrix Code S5900      | Activity Cor                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                       |               |           |             | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D& | D Waste       |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                               |               |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 3.12E-05                            |
| ContainerType                                      | Stored        | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238         | 1.28E-05                            |
| 55 gallon drum                                     | 0.0           | 39.9      |             | Other Metal/Alloys           | 28.57                         | Pu-239         | 4.68E-04                            |
| James 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.       |               |           |             | Other Inorganic Materials    | 9.47                          | Pu-240         | 1.05E-04                            |
| As-Generated Tota                                  | 0.0           | 39.9      | 39.9        | Cellulosics                  | 66.67                         | Pu-241         | 1.79E-03                            |
| Final Form Volumes                                 |               |           |             | Rubber                       | 123.40                        | Pu-242         | 6.32E-09                            |
| ContainerType                                      | Stored        | Proj.     | Total       | Plastics                     | 33.33                         |                |                                     |
| 55 Gallon Drum                                     | 0.0           | 39.9      | 39.9        | Solidified, Inorganic Matrix | 0.96                          |                |                                     |
|  |               |           | <u>-</u>    | Cement (Solidified)          | 0.00                          |                |                                     |
| Final Form Tota                                    | 0.0           | 39.9      | 39.9        | Vitrified                    | 0.00                          |                |                                     |
|  |               |           |             | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|  |               |           |             | Soils                        | 325.10                        |                |                                     |
|  |               |           |             | Packaging Material, Steel    | 131.00                        |                |                                     |
|  |               |           |             | Packaging Material Plastic   | 37 00                         |                |                                     |

#### **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.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **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.

### Waste Stream ID: RL-W418

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID RL-W418 Stream Name Future CH-MTRU Wa | aste Feed Deliv | ery Syste  | m (8 tanks) |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|-----------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Fina               | l Waste Form    | Jncategor  | ized Metal  | Waste Matrix Code S5119      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                |                 |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Waste                                       | ment Operatior  | n and Mair | ntenance    | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)                    |                 |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 8.08E-04                            |
| As-Generated Volumes                        |                 |            |             | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 2.61E-04                            |
| ContainerType                               | Stored          | Proj.      | Total       | Other Metal/Alloys           | 596.00                        | Pu-239          | 9.80E-03                            |
| 55 Gallon Drum                              | 0.0             | 8.2        | 8.2         | Other Inorganic Materials    | 0.00                          | Pu-240          | 2.19E-03                            |
| As-Generated To                             | <b>otal</b> 0.0 | 8.2        | 8.2         | Cellulosics                  | 0.00                          | Pu-241          | 3.24E-02                            |
|   |                 |            |             | Rubber                       | 0.00                          | Pu-242          | 1.32E-07                            |
| Final Form Volumes                          |                 |            |             | Plastics                     | 0.00                          |                 |                                     |
| ContainerType                               | Stored          | Proj.      | Total       | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| 55 Gallon Drum                              | 0.0             | 8.2        | 8.2         | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form To                               | otal 0.0        | 8.2        | 8.2         | Vitrified                    | 0.00                          |                 |                                     |
|   |                 |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |                 |            |             | Soils                        | 0.00                          |                 |                                     |
|   |                 |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |

#### **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.

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

#### **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.

#### Waste Stream ID: RL-W419

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W419 Stream Name Future RH-TRU K-Basin                               | Transition |           |             |                              |                               | Invento         | ory Date 9/30/2002                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa   | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5900      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3) | Waste      |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 3.12E-05                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 1.28E-05                            |
| RH Canister   | 0.0        | 3.6       |             | Other Metal/Alloys           | 28.57                         | Pu-239          | 4.68E-04                            |
|   | 0.0        |           |             | Other Inorganic Materials    | 9.47                          | Pu-240          | 1.05E-04                            |
| As-Generated Total  | 0.0        | 3.6       | 3.6         | Cellulosics                  | 66.67                         | Pu-241          | 1.79E-03                            |
| Final Form Volumes  |            |           |             | Rubber                       | 123.40                        | Pu-242          | 6.32E-09                            |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 33.33                         |                 |                                     |
| RH Canister   | 0.0        | 3.6       | 3.6         | Solidified, Inorganic Matrix | 0.96                          |                 |                                     |
|   |            |           |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.0        | 3.6       | 3.6         | Vitrified                    | 0.00                          |                 |                                     |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |            |           |             | Soils                        | 325.10                        |                 |                                     |
|   |            |           |             | Packaging Material, Steel    | 434.00                        |                 |                                     |
|   |            |           |             | Packaging Material, Plastic  | 0.00                          |                 |                                     |

#### **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.

Packaging Material, Lead

Packaging Material, Steel Plug

464.00 0.00

#### **Management Comments**

464.00

0.00

#### Waste Stream ID: RL-W420

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W420 Stream Name Future RH-TRU Waste Tr                                      | eatment Pl  | lant - Opei | rations   |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|-------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa   | ste Form    | Jncategori  | zed Metal | Waste Matrix Code S5119      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |             |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Main    | tenance   | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |             |             |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 8.08E-04                            |
| As-Generated Volumes  | 1           |             |           | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 2.61E-04                            |
| ContainerType   | Stored      | Proj.       | Total     | Other Metal/Alloys           | 596.00                        | Pu-239          | 9.80E-03                            |
| RH Canister   | 0.0         | 26.7        | 26.7      | Other Inorganic Materials    | 0.00                          | Pu-240          | 2.19E-03                            |
| As-Generated Total  | 0.0         | 26.7        | 26.7      | Cellulosics                  | 0.00                          | Pu-241          | 3.24E-02                            |
|   |             |             |           | Rubber                       | 0.00                          | Pu-242          | 1.32E-07                            |
| Final Form Volumes  |             |             |           | Plastics                     | 0.00                          |                 |                                     |
| ContainerType   | Stored      | Proj.       | Total     | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| RH Canister   | 0.0         | 26.7        | 26.7      | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.0         | 26.7        | 26.7      | Vitrified                    | 0.00                          |                 |                                     |
|   |             |             |           | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |             |             |           | Soils                        | 0.00                          |                 |                                     |
|   |             |             |           | Packaging Material, Steel    | 434.00                        |                 |                                     |
|   |             |             |           | Packaging Material Plastic   | 0.00                          |                 |                                     |

#### **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.

Packaging Material, Lead
Packaging Material, Steel Plug

#### **Management Comments**

While not forecasted from 1995 to 1999, additional generation is forecasted from 2000 to 2024.

464.00

0.00

#### Waste Stream ID: RL-W421

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W421 Stream Name Future RH-MTRU Waste  | Feed Deliv  | ery Syster | n (8 tanks) |                              |                               | Invento    | ory Date 9/30/2002                  |
|---|-------------|------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa   | ste Form    | leterogen  | eous Debris | Waste Matrix Code S5900      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |            |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste  Waste Volume Detail (m3) | t Operation | and Main   | tenance     | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| ` ,   |             |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.12E-05                            |
| As-Generated Volumes  |             | T          |             | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 1.28E-05                            |
| ContainerType   | Stored      | Proj.      | Total       | Other Metal/Alloys           | 28.57                         | Pu-239     | 4.68E-04                            |
| RH Canister   | 0.0         | 315.9      | 315.9       | Other Inorganic Materials    | 9.47                          | Pu-240     | 1.05E-04                            |
| As-Generated Total  | 0.0         | 315.9      | 315.9       | Cellulosics                  | 66.67                         | Pu-241     | 1.79E-03                            |
|   |             |            |             | Rubber                       | 123.40                        | Pu-242     | 6.32E-09                            |
| Final Form Volumes  |             |            |             | Plastics                     | 33.33                         |            |                                     |
| ContainerType   | Stored      | Proj.      | Total       | Solidified, Inorganic Matrix | 0.96                          |            |                                     |
| RH Canister   | 0.0         | 315.9      | 315.9       | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.0         | 315.9      | 315.9       | Vitrified                    | 0.00                          |            |                                     |
|   |             |            |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |             |            |             | Soils                        | 325.10                        |            |                                     |
|   |             |            |             | Packaging Material, Steel    | 434.00                        |            |                                     |
|   |             |            |             | Packaging Material Plastic   | 0.00                          |            |                                     |

#### **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.

Packaging Material, Lead
Packaging Material, Steel Plug

#### **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.

#### Waste Stream ID: RL-W428

#### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    |                  | Inventory Date 9/30/2002 |         |                                    |     |                           |               |                                |
|----------|------------------|--------------------------|---------|------------------------------------|-----|---------------------------|---------------|--------------------------------|
| Local ID | N/A              | Handli                   | ng RH   | Final Waste Form Heterogeneous Deb | ris | Waste Matrix Code S5400   | Activity Cond | centrations Decayed to CY 2002 |
| Final Wa | ste Form Descrip | otors                    |         |                                    |     | Waste Material Parameters |               | Final Form Radionuclides       |
| Categ    | ory: Defense TF  | RU Waste                 | Source: | Waste Treatment Process            |     |                           | Average       | Typical                        |

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.0    | 21.4  | 21.4  |
|                      | As-Generated Total | 0.0    | 21.4  | 21.4  |
| Final Form Volumes   |                    |        |       |       |

| ContainerType |                  | Stored | Proj. | Total |
|---------------|------------------|--------|-------|-------|
| RH Canister   |                  | 0.0    | 21.4  | 21.4  |
|               | Final Form Total | 0.0    | 21.4  | 21.4  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 60.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 30.00                         |
| Other Inorganic Materials      | 75.00                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 7.00                          |
| Solidified, Inorganic Matrix   | 83.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 31.00                         |
| Soils                          | 24.00                         |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.78E-03                            |
| Pu-238  | 1.72E-03                            |
| Pu-239  | 2.10E-05                            |
| Pu-240  | 3.78E-05                            |
| Pu-241  | 9.27E-02                            |
| Pu-242  | 1.92E-11                            |

#### **Waste Stream Description**

The waste stream ranges from contaminated clothing to process equipment.

#### **Management Comments**

### RL-W433 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W433 Stream Name Future RH-MTRU Waste Treatment Plant - Operations Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5400 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |           |       |       |
|----------------------|-----------|-------|-------|
| ContainerType        | Stored    | Proj. | Total |
| RH Canister          | 0.0       | 43.6  | 43.6  |
| As-Generated         | Total 0.0 | 43.6  | 43.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 43.6  | 43.6  |
|                    | Final Form Total | 0.0    | 43.6  | 43.6  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 60.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 30.00                         |
| Other Inorganic Materials      | 75.00                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 7.00                          |
| Solidified, Inorganic Matrix   | 83.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 31.00                         |
| Soils                          | 24.00                         |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.78E-03                            |
| Pu-238  | 1.72E-03                            |
| Pu-239  | 2.10E-05                            |
| Pu-240  | 3.78E-05                            |
| Pu-241  | 9.27E-02                            |
| Pu-242  | 1.92E-11                            |

#### **Waste Stream Description**

The waste stream ranges from contaminated clothing to process equipment, contaminated with RCRA regulated constituents.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W436 Stream Name Future RH-MTRU SST Long Length Equipment Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W436** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| RH Canister          |                           | 0.0    | 488.6 | 488.6 |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 0.0    | 488.6 | 488.6 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.0    | 488.6 | 488.6 |
|                    | ı                |        |       |       |
|                    | Final Form Total | 0.0    | 488.6 | 488.6 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 596.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.47E-01                            |
| Pu-238  | 9.47E-02                            |
| Pu-239  | 5.92E-03                            |
| Pu-240  | 5.05E-03                            |
| Pu-242  | 3.75E-09                            |

#### **Waste Stream Description**

Equipment removed from the high level waste tanks (instrument trees, pumps, circulators, agitators, heaters, sluicers, steam coils, air lances, cameras)

#### **Management Comments**

### Waste Stream ID: RL-W438 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W438 Stream Name Future CH-TRU 200 Area Accelerated Deactivation Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Remediation/D&D Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.0    | 2.5   | 2.5   |
|                      | As-Generated Total | 0.0    | 2.5   | 2.5   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 2.5   | 2.5   |
|                    |        |       |       |

 Final Form Total
 0.0
 2.5
 2.5

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 28.57                         |
| Other Inorganic Materials      | 9.47                          |
| Cellulosics                    | 66.67                         |
| Rubber                         | 123.40                        |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 0.96                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 325.10                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 3.12E-05                            |  |  |
| Pu-238  | 1.28E-05                            |  |  |
| Pu-239  | 4.68E-04                            |  |  |
| Pu-240  | 1.05E-04                            |  |  |
| Pu-241  | 1.79E-03                            |  |  |
| Pu-242  | 6.32E-09                            |  |  |

#### **Waste Stream Description**

Description is presently not available; however typical deactivation waste includes cleanout and removal of equipment, mixers, tanks, vessels and pumps.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W444 Stream Name Future CH-MTRU SST Long Length Equipment Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W444** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| Standard Waste Box   |                           | 0.0    | 495.9 | 495.9 |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 0.0    | 495.9 | 495.9 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 0.0    | 495.9 | 495.9 |
|                    | Final Form Total | 0.0    | 495.9 | 495.9 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 68.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 60.00                         |
| Other Inorganic Materials      | 35.00                         |
| Cellulosics                    | 5.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 6.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 8.28E-02                            |  |  |
| Pu-238  | 2.36E-02                            |  |  |
| Pu-239  | 9.01E-01                            |  |  |
| Pu-240  | 2.02E-01                            |  |  |
| Pu-241  | 2.71E+00                            |  |  |
| Pu-242  | 1.22E-05                            |  |  |

#### **Waste Stream Description**

Description is presently not available; however typical deactivation waste includes cleanout and removal of equipment, mixers, tanks, vessels and pumps.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W445 Stream Name 105KE TRU RH solidified inorganic S3150 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Solidified Inorganics Waste Matrix Code S3150 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W445** 

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 15.1   | 115.7 | 130.8 |
|                      | As-Generated Total | 15.1   | 115.7 | 130.8 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 15.1   | 115.7 | 130.8 |
|                    | Final Form Total | 15.1   | 115.7 | 130.8 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 212.02                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 7.91                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 778.27                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Tillai i Ollii itaalollaciiaes |                                     |  |
|--------------------------------|-------------------------------------|--|
| Isotope                        | Typical<br>Concentration<br>(Ci/m3) |  |
| Am-241                         | 2.47E+00                            |  |
| Cs-137                         | 1.11E+00                            |  |
| Pu-238                         | 9.23E-01                            |  |
| Pu-239                         | 7.10E-03                            |  |
| Pu-240                         | 1.27E-02                            |  |
| Pu-241                         | 2.87E+02                            |  |
| Sr-90                          | 1.14E+00                            |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REACTOR FACILITY.

#### **Management Comments**

#### Waste Stream ID: RL-W446

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W446 | Stream Name | 105KE T | RU RH inorganic non-metal S5121 Non-mixed |                         |               | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|---|-------------------------|---------------|------------------------|-----------|
| Local ID | N/A     | Handling    | RH      | Final Waste Form Inorganic Non-Metal      | Waste Matrix Code S5121 | Activity Cond | centrations Decayed to | CY 2002   |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 22.3   | 0.0   | 22.3  |
| •                    |                    |        |       |       |
|                      | As-Generated Total | 22.3   | 0.0   | 22.3  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| RH Canister        | 22.3   | 0.0   | 22.3  |

**Final Form Total** 22.3 0.0 22.3

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 304.81                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1955.60                       |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 15.19                         |
| Solidified, Inorganic Matrix   | 56.98                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.93E+00                            |
| Cs-137  | 1.77E+00                            |
| Pu-238  | 1.10E+00                            |
| Pu-239  | 1.08E-02                            |
| Pu-240  | 2.34E-02                            |
| Pu-241  | 8.61E+02                            |
| Pu-242  | 1.68E-07                            |
| Sr-90   | 1.57E+00                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REACTOR FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W447 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W447 Stream Name 201C MTRU CH soils S4100 Mixed RCRA w/ met

Local ID N/A Handling CH Final Waste Form Soils Waste Matrix Code S4100 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Remediation/D&D Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 9.9    | 0.0   | 9.9   |
|                      | As-Generated Total | 9.9    | 0.0   | 9.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 9.9    | 0.0   | 9.9   |
|                    | Final Form Total | 9.9    | 0.0   | 9.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 28.78                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 66.67                         |
| Rubber                         | 0.00                          |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 1.17                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 443.11                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Tillari Orilli Radiolladiacs |                                     |  |  |  |
|------------------------------|-------------------------------------|--|--|--|
| Isotope                      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                       | 7.18E-04                            |  |  |  |
| Pu-238                       | 2.94E-04                            |  |  |  |
| Pu-239                       | 1.08E-02                            |  |  |  |
| Pu-240                       | 2.42E-03                            |  |  |  |
| Pu-241                       | 4.12E-02                            |  |  |  |
| Pu-242                       | 1.46E-07                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Remediation/D&D Waste activities at the PROCESS BUILDING, 3 HOT CELLS (DEMO'D).

#### **Management Comments**

### Waste Stream ID: RL-W448 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W448 Stream Name 201C MTRU CH heterogeneous S5900 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Remediation/D&D Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.7    | 0.0   | 1.7   |
|                      | As-Generated Total | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 28.57                         |
| Other Inorganic Materials      | 9.47                          |
| Cellulosics                    | 66.67                         |
| Rubber                         | 123.40                        |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 0.96                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 325.10                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.12E-05                            |
| Pu-238  | 1.28E-05                            |
| Pu-239  | 4.68E-04                            |
| Pu-240  | 1.05E-04                            |
| Pu-241  | 1.79E-03                            |
| Pu-242  | 6.32E-09                            |

#### **Waste Stream Description**

The waste is generated from Remediation/D&D Waste activities at the PROCESS BUILDING, 3 HOT CELLS (DEMO'D).

#### **Management Comments**

### RL-W449 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W449 Stream Name 202A MTRU CH solidified inorganic S3119 Mixed RCRA w/ org,met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |         |        |       |       |
|----------------------|---------|--------|-------|-------|
| ContainerType        | (       | Stored | Proj. | Total |
| 55 Gallon Drum       |         | 1.0    | 0.0   | 1.0   |
| As-Gonerator         | 1 Total | 1.0    | 0.0   | 1.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.0    | 0.0   | 1.0   |
|                    | Final Form Total | 1.0    | 0.0   | 1.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.01                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 73.33                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 109.89                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 66.59                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iiiai | i iliai i oi ili itaalollaciiaes |                                     |  |  |  |
|---------|----------------------------------|-------------------------------------|--|--|--|
| Isoto   | ppe                              | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-2    | <u>'</u> 41                      | 1.22E+00                            |  |  |  |
| Pu-2    | 38                               | 7.49E-04                            |  |  |  |
| Pu-2    | 39                               | 2.14E-02                            |  |  |  |
| Pu-2    | 40                               | 4.80E-03                            |  |  |  |
| Pu-2    | 41                               | 5.20E-02                            |  |  |  |
| Pu-2    | 42                               | 2.89E-07                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### RL-W450 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W450 Stream Name 202A MTRU CH solidified inorganic S3119 Mixed RCRA w/ org,ign Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 71.43                         |
| Other Inorganic Materials      | 11.90                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 21.67                         |
| Solidified, Inorganic Matrix   | 56.07                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|-------------------------------------|--|--|--|--|
| 9.41E-04                            |  |  |  |  |
| 3.86E-04                            |  |  |  |  |
| 1.41E-02                            |  |  |  |  |
| 3.17E-03                            |  |  |  |  |
| 5.40E-02                            |  |  |  |  |
| 1.91E-07                            |  |  |  |  |
|                                     |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### RL-W451 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| -        | _       |             | _       |  |                         |               |                                |
|----------|---------|-------------|---------|--|-------------------------|---------------|--------------------------------|
| HQ ID    | RL-W451 | Stream Name | 202A MT | RU CH solidified inorganic S3119 Mixed RCRA w/ | org                     |               | Inventory Date 9/30/2002       |
| Local ID | N/A     | Handling    | CH      | Final Waste Form Solidified Inorganics         | Waste Matrix Code S3119 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 71.43                         |
| Other Inorganic Materials      | 7.98                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 21.19                         |
| Solidified, Inorganic Matrix   | 44.17                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 2.68E-04                            |  |  |  |
| Pu-238  | 1.10E-04                            |  |  |  |
| Pu-239  | 4.03E-03                            |  |  |  |
| Pu-240  | 9.03E-04                            |  |  |  |
| Pu-241  | 1.54E-02                            |  |  |  |
| Pu-242  | 5.44E-08                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W452 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W452 Stream Name 202A MTRU CH uncategorized metal S5119 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 7.6    | 0.0   | 7.6   |
|                      | As-Generated Total | 7.6    | 0.0   | 7.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 7.6    | 0.0   | 7.6   |
|                    | Final Form Total | 7.6    | 0.0   | 7.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 90.39                         |
| Other Inorganic Materials      | 0.96                          |
| Cellulosics                    | 9.03                          |
| Rubber                         | 0.00                          |
| Plastics                       | 19.92                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.08E-04                            |
| Pu-238  | 2.61E-04                            |
| Pu-239  | 9.80E-03                            |
| Pu-240  | 2.19E-03                            |
| Pu-241  | 3.24E-02                            |
| Pu-242  | 1.32E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W453 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W453 Stream Name 202A MTRU CH inorganic non-metal S5190 Mixed State Reg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5190 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 182.40                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 39.20                         |
| Other Inorganic Materials      | 342.00                        |
| Cellulosics                    | 1.20                          |
| Rubber                         | 0.00                          |
| Plastics                       | 12.96                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|-------------------------------------|--|--|--|--|
| 9.35E-03                            |  |  |  |  |
| 2.67E-03                            |  |  |  |  |
| 1.02E-01                            |  |  |  |  |
| 2.28E-02                            |  |  |  |  |
| 3.05E-01                            |  |  |  |  |
| 1.37E-06                            |  |  |  |  |
|                                     |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

#### Appendix J **RL-W454** Waste Stream ID: TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W454 | Stream Name | 202A TF | RU CH combustible S5319 Non-mixed |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|-----------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Combustible      | Waste Matrix Code S5319 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Source: Facility/Equipment Operation and Maintenance Category: Defense TRU Waste Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

0.0 Final Form Total 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 4.80                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.00                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 1.20                          |
| Rubber                         | 24.00                         |
| Plastics                       | 105.12                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.31E-01                            |
| Pu-238  | 3.73E-02                            |
| Pu-239  | 1.42E+00                            |
| Pu-240  | 3.19E-01                            |
| Pu-241  | 4.27E+00                            |
| Pu-242  | 1.92E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W455 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W455 Stream Name 202A MTRU CH combustible S5319 Mixed RCRA w/ met,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 63.57                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.95                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 9.52                          |
| Rubber                         | 0.00                          |
| Plastics                       | 131.14                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.11E-02                            |
| Pu-238  | 1.00E-02                            |
| Pu-239  | 3.77E-01                            |
| Pu-240  | 8.44E-02                            |
| Pu-241  | 1.25E+00                            |
| Pu-242  | 5.09E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### RL-W456 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W456 Stream Name 202A MTRU CH combustible S5319 Mixed RCRA w/ met 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 9.0    | 0.0   | 9.0   |
|                      | As-Generated Total | 9.0    | 0.0   | 9.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 9.0    | 0.0   | 9.0   |
|                    | Final Form Total | 9.0    | 0.0   | 9.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 54.32                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 26.22                         |
| Other Inorganic Materials      | 1.25                          |
| Cellulosics                    | 5.41                          |
| Rubber                         | 47.33                         |
| Plastics                       | 73.43                         |
| Solidified, Inorganic Matrix   | 1.41                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.04E-01                            |
| Pu-238  | 3.06E-02                            |
| Pu-239  | 1.16E+00                            |
| Pu-240  | 2.60E-01                            |
| Pu-241  | 3.58E+00                            |
| Pu-242  | 1.57E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W457 | Stream Name | 202A M | RU CH combustible S5319 Mixed State Reg |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|--------|---|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН     | Final Waste Form Combustible            | Waste Matrix Code S5319 | Activity Cond | centrations Decayed to CY 2002 |

**Final Waste Form Descriptors** 

**RL-W457** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
| 1                    | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 25.60                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.00                         |
| Other Inorganic Materials      | 2.88                          |
| Cellulosics                    | 7.20                          |
| Rubber                         | 1.20                          |
| Plastics                       | 117.60                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 1.45E-01                            |  |  |  |  |
| Pu-238  | 4.26E-02                            |  |  |  |  |
| Pu-239  | 1.62E+00                            |  |  |  |  |
| Pu-240  | 3.62E-01                            |  |  |  |  |
| Pu-241  | 4.97E+00                            |  |  |  |  |
| Pu-242  | 2.18E-05                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W458** TRU WASTE BASELINE INVENTORY WASTE PROFILE

| _        | _       |             | _       |   |                   |       |               | _                     | _        |    |
|----------|---------|-------------|---------|---|-------------------|-------|---------------|-----------------------|----------|----|
| HQ ID    | RL-W458 | Stream Name | 202A MT | RU CH filter S5410 Mixed RCRA w/ met,Hg |                   |       |               | Inventory Date        | 9/30/200 | 02 |
| Local ID | N/A     | Handling    | CH      | Final Waste Form Filter                 | Waste Matrix Code | S5410 | Activity Cond | centrations Decayed t | o CY 200 | ე2 |

#### **Final Waste Form Descriptors**

Source: Facility/Equipment Operation and Maintenance Category: Defense TRU Waste Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

0.0 Final Form Total 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.48                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 6.67                          |
| Other Inorganic Materials      | 23.81                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 7.14                          |
| Solidified, Inorganic Matrix   | 28.57                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 9.33E-01                            |
| 4.88E-04                            |
| 6.50E-01                            |
| 1.99E+00                            |
| 1.11E+00                            |
| 5.99E+01                            |
| 4.04E-04                            |
| 4.45E-04                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W459 Stream Name 202A MTRU CH filter S5410 Mixed State Reg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W459** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.4    | 0.0   | 0.4   |
| Standard Waste Box   | 5.7    | 0.0   | 5.7   |
| As-Generated Total   | 6.1    | 0.0   | 6.1   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
| Standard Waste Box |                  | 5.7    | 0.0   | 5.7   |
|                    | Final Form Total | 6.1    | 0.0   | 6.1   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 6.85                          |
| Other Inorganic Materials      | 74.43                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.62                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 152.42                        |
| Packaging Material, Plastic    | 3.66                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.85E-01                            |
| Cs-137  | 8.38E-04                            |
| Pu-238  | 2.31E-01                            |
| Pu-239  | 1.70E+00                            |
| Pu-240  | 5.22E-01                            |
| Pu-241  | 2.04E+01                            |
| Pu-242  | 1.17E-04                            |
| Sr-90   | 7.64E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W460 Stream Name 202A TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W460** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 240.00                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 36.00                         |
| Rubber                         | 0.00                          |
| Plastics                       | 28.80                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.28E-02                            |
| Pu-238  | 2.36E-02                            |
| Pu-239  | 9.01E-01                            |
| Pu-240  | 2.02E-01                            |
| Pu-241  | 2.71E+00                            |
| Pu-242  | 1.22E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W461 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W461 Stream Name 202A MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.06                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 352.76                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 54.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.01                          |
| Soils                          | 297.99                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.12E-02                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W462 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W462 Stream Name 202A MTRU CH heterogeneous S5420 Mixed RCRA w/ met,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 214.71                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 2.90                          |
| Rubber                         | 21.43                         |
| Plastics                       | 27.62                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|-------------------------------------|--|--|--|
| 1.97E-02                            |  |  |  |
| 6.84E-03                            |  |  |  |
| 2.55E-01                            |  |  |  |
| 5.70E-02                            |  |  |  |
| 8.84E-01                            |  |  |  |
| 3.44E-06                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W463 Stream Name 202A MTRU CH heterogeneous S5420 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 72.00                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 210.82                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 6.02                          |
| Rubber                         | 7.15                          |
| Plastics                       | 65.71                         |
| Solidified, Inorganic Matrix   | 14.52                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| i iliai i Oliii ik | adionaonaes                         |
|--------------------|-------------------------------------|
| Isotope            | Typical<br>Concentration<br>(Ci/m3) |
| Am-241             | 6.08E-02                            |
| Pu-238             | 1.73E-02                            |
| Pu-239             | 6.61E-01                            |
| Pu-240             | 1.48E-01                            |
| Pu-241             | 1.98E+00                            |
| Pu-242             | 8.92E-06                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W464          | Stream Name | 202A TF  | RU CH heterogeneous S5440 Non-mixed         |     |                           |              | Inventor        | y Date 9/30/2002 |
|----------|------------------|-------------|----------|---|-----|---------------------------|--------------|-----------------|------------------|
| Local ID | N/A              | Handling    | CH       | Final Waste Form Heterogeneous Debr         | ris | Waste Matrix Code S5440   | Activity Con | centrations Dec | ayed to CY 2002  |
| •        |                  | _           |          | ·   |     | <u></u>                   |              |                 |                  |
| Final Wa | ste Form Descrip | otors       |          |   |     | Waste Material Parameters |              | Final Form R    | adionuclides     |
| Categ    | ory: Defense TF  | RU Waste Se | ource: F | acility/Equipment Operation and Maintenance |     |                           | Average      |                 | Typical          |
| _        |                  |             | V        | Vaste                                       |     |                           | Density      |                 | Concentration    |

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 69.60                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 38.40                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 19.92                         |
| Rubber                         | 24.00                         |
| Plastics                       | 59.04                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 2.80E-02                            |  |  |  |
| Pu-238  | 7.99E-03                            |  |  |  |
| Pu-239  | 3.04E-01                            |  |  |  |
| Pu-240  | 6.82E-02                            |  |  |  |
| Pu-241  | 9.14E-01                            |  |  |  |
| Pu-242  | 4.10E-06                            |  |  |  |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

## **Management Comments**

HQ ID RL-W465 Stream Name 202A MTRU CH heterogeneous S5440 Mixed RCRA w/ met,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W465** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                   |      |       |       |
|----------------------|-------------------|------|-------|-------|
| ContainerType        | St                | ored | Proj. | Total |
| 55 Gallon Drum       |                   | 0.8  | 0.0   | 0.8   |
| Δ                    | s-Generated Total | 0.8  | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 100.07                        |
| Aluminum-Base Metal/Alloys     | 0.48                          |
| Other Metal/Alloys             | 89.03                         |
| Other Inorganic Materials      | 0.72                          |
| Cellulosics                    | 7.79                          |
| Rubber                         | 41.75                         |
| Plastics                       | 56.58                         |
| Solidified, Inorganic Matrix   | 6.63                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 8.48E-02                            |
| 2.70E-02                            |
| 1.01E+00                            |
| 2.27E-01                            |
| 3.31E+00                            |
| 1.37E-05                            |
|                                     |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W466 Stream Name 202A MTRU CH heterogeneous S5440 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W466** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 14.1   | 0.0   | 14.1  |
|                      | As-Generated Total | 14.1   | 0.0   | 14.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 14.1   | 0.0   | 14.1  |
|                    | Final Form Total | 14.1   | 0.0   | 14.1  |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 91.57                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 61.17                         |
| Other Inorganic Materials      | 1.30                          |
| Cellulosics                    | 7.77                          |
| Rubber                         | 39.47                         |
| Plastics                       | 57.54                         |
| Solidified, Inorganic Matrix   | 8.18                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 7.21E-02                            |
| 2.20E-02                            |
| 8.30E-01                            |
| 1.86E-01                            |
| 2.63E+00                            |
| 1.12E-05                            |
|                                     |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W467 Stream Name 202A MTRU CH heterogeneous S5440 Mixed RCRA w/ met,Hg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

**RL-W467** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.3    | 0.0   | 1.3   |
|                      | As-Generated Total | 1.3    | 0.0   | 1.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 55.22                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 13.98                         |
| Other Inorganic Materials      | 1.16                          |
| Cellulosics                    | 15.22                         |
| Rubber                         | 60.64                         |
| Plastics                       | 46.82                         |
| Solidified, Inorganic Matrix   | 35.07                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.75E-02                            |
| Pu-238  | 1.27E-02                            |
| Pu-239  | 4.73E-01                            |
| Pu-240  | 1.06E-01                            |
| Pu-241  | 1.61E+00                            |
| Pu-242  | 6.38E-06                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W468 Stream Name 202A MTRU CH heterogeneous S5440 Mixed RCRA w/cor
Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.67                          |
| Other Inorganic Materials      | 9.52                          |
| Cellulosics                    | 19.76                         |
| Rubber                         | 2.76                          |
| Plastics                       | 23.43                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.12E-03                            |
| Pu-238  | 3.90E-04                            |
| Pu-239  | 1.45E-02                            |
| Pu-240  | 3.25E-03                            |
| Pu-241  | 5.04E-02                            |
| Pu-242  | 1.96E-07                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W469 Stream Name 202A MTRU CH heterogeneous S5440 Mixed State Reg
Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W469** 

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |              |        |       |       |
|----------------------|--------------|--------|-------|-------|
| ContainerType        |              | Stored | Proj. | Total |
| 55 Gallon Drum       |              | 1.3    | 0.0   | 1.3   |
| As-Gei               | erated Total | 1.3    | 0.0   | 1.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 80.53                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 43.79                         |
| Other Inorganic Materials      | 1.59                          |
| Cellulosics                    | 9.18                          |
| Rubber                         | 9.20                          |
| Plastics                       | 76.97                         |
| Solidified, Inorganic Matrix   | 4.84                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.65E-02                            |
| Pu-238  | 2.61E-02                            |
| Pu-239  | 9.88E-01                            |
| Pu-240  | 2.21E-01                            |
| Pu-241  | 3.10E+00                            |
| Pu-242  | 1.33E-05                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W470 Stream Name 202A MTRU CH heterogeneous S5900 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W470** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 37.10                         |
| Other Inorganic Materials      | 5.33                          |
| Cellulosics                    | 1.19                          |
| Rubber                         | 1.90                          |
| Plastics                       | 21.05                         |
| Solidified, Inorganic Matrix   | 14.33                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.05E+00                            |
| Cs-137  | 1.05E-04                            |
| Pu-238  | 7.29E+00                            |
| Pu-239  | 2.19E+01                            |
| Pu-240  | 1.13E+01                            |
| Pu-241  | 7.47E+02                            |
| Pu-242  | 4.94E-03                            |
| Sr-90   | 9.58E-05                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W474 Stream Name 202A TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 1.9    | 0.0   | 1.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 1.9    | 0.0   | 1.9   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 101.96                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 16.93                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.05                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.38E-01                            |
| Pu-238  | 8.92E-02                            |
| Pu-239  | 5.57E-03                            |
| Pu-240  | 4.76E-03                            |
| Pu-242  | 3.53E-09                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

HQ ID RL-W476 Stream Name 202A TRU CH combustible S5390 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 4.8    | 0.0   | 4.8   |
|                      | As-Generated Total | 4.8    | 0.0   | 4.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 4.8    | 0.0   | 4.8   |
|                    | Final Form Total | 4.8    | 0.0   | 4.8   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.11                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 10.95                         |
| Other Inorganic Materials      | 27.38                         |
| Cellulosics                    | 47.34                         |
| Rubber                         | 1.18                          |
| Plastics                       | 59.70                         |
| Solidified, Inorganic Matrix   | 1.26                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.09E-02                            |
| Cs-137  | 1.86E-02                            |
| Pu-238  | 1.27E-02                            |
| Pu-239  | 4.81E-01                            |
| Pu-240  | 1.08E-01                            |
| Pu-241  | 1.48E+00                            |
| Pu-242  | 6.48E-06                            |
| Sr-90   | 1.68E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PUREX CANYON AND SERVICE FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W480 Stream Name 202AL MTRU CH combus                                   | tible S531 | 9 Mixed R | CRA w/ met |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|------------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Was   |            |           |            |                              |                               |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Analytical Laborate Waste Volume Detail (m3) | ory Waste  |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |            | Iron-Base Metal/Alloys       | 185.45                        | Am-241     | 7.18E-02                            |
| ContainerType  | Stored     | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 2.32E-02                            |
| 55 Gallon Drum   | 0.4        | _         |            | Other Metal/Alloys           | 23.19                         | Pu-239     | 8.70E-01                            |
| 33 34  | • • • •    |           |            | Other Inorganic Materials    | 0.00                          | Pu-240     | 1.95E-01                            |
| As-Generated Total   | 0.4        | 0.0       | 0.4        | Cellulosics                  | 0.00                          | Pu-241     | 2.88E+00                            |
| Final Form Volumes   |            |           |            | Rubber                       | 0.00                          | Pu-242     | 1.17E-05                            |
| ContainerType  | Stored     | Proj.     | Total      | Plastics                     | 283.76                        |            |                                     |
| 55 Gallon Drum   | 0.4        | 0.0       | 0.4        | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|  | I          |           |            | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 0.4        | 0.0       | 0.4        | Vitrified                    | 0.00                          |            |                                     |
|  |            |           |            | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |            |           |            | Soils                        | 0.00                          |            |                                     |
|  |            |           |            | Packaging Material, Steel    | 131.00                        |            |                                     |
|  |            |           |            | Packaging Material, Plastic  | 37.00                         |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

## **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the PUREX PROCESS LABORATORY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W481 Stream Name 202AL MTRU CH heterogeneous S5440 Mixed RCRA                    |                              |                               |                 | ory Date 9/30/2002                  |
|---|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste Form Heterogeneous Deb                               | oris Waste Matrix Code S5440 | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Analytical Laboratory Waste  Waste Volume Detail (m3) | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  | Iron-Base Metal/Alloys       | 46.84                         | Am-241          | 7.51E-02                            |
| ContainerType Stored Proj. Total  | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 2.43E-02                            |
| 55 Gallon Drum 0.6 0.0 0.6  | Other Metal/Alloys           | 258.54                        | Pu-239          | 9.10E-01                            |
| 0.0 0.0 0.0 0.0   | Other Inorganic Materials    | 0.00                          | Pu-240          | 2.04E-01                            |
| As-Generated Total 0.6 0.0 0.6  | Cellulosics                  | 0.73                          | Pu-241          | 3.01E+00                            |
| Final Form Volumes  | Rubber                       | 0.00                          | Pu-242          | 1.23E-05                            |
| ContainerType Stored Proj. Total  | Plastics                     | 104.62                        |                 | •                                   |
| 55 Gallon Drum 0.6 0.0 0.6  | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| 0.0 0.0 0.0   | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total 0.6 0.0 0.6  | Vitrified                    | 0.00                          |                 |                                     |
|   | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   | Soils                        | 0.00                          |                 |                                     |
|   | Packaging Material, Steel    | 131.00                        |                 |                                     |

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

0.00

## **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the PUREX PROCESS LABORATORY.

## **Management Comments**

Category: Defense TRU Waste

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Final Wa | ste Form Descrip | otors       |         |                                   | Waste Material Parameters | Final Form Radionuclides                   |
|----------|------------------|-------------|---------|-----------------------------------|---------------------------|--|
| Local ID | N/A              | Handling    | CH      | Final Waste Form Combustible      | Waste Matrix Code S5390   | Activity Concentrations Decayed to CY 2002 |
| HQ ID    | RL-W482          | Stream Name | 202AL T | RU CH combustible S5390 Non-mixed |                           | Inventory Date 9/30/2002                   |

## Waste Volume Detail (m3)

| As-Generated Volumes |                     |        |       |       |
|----------------------|---------------------|--------|-------|-------|
| ContainerType        |                     | Stored | Proj. | Total |
| 55-Gallon Drum       |                     | 2.5    | 0.0   | 2.5   |
|                      | As Congressed Total | 2.5    | 0.0   | 2.5   |

Source: Analytical Laboratory Waste

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.5    | 0.0   | 2.5   |
|                    | Final Form Total | 2.5    | 0.0   | 2.5   |

| Average<br>Density<br>(kg/m3) |
|-------------------------------|
| 0.00                          |
| 0.00                          |
| 11.07                         |
| 45.78                         |
| 22.51                         |
| 1.33                          |
| 25.05                         |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 131.00                        |
| 37.00                         |
| 0.00                          |
| 0.00                          |
|                               |

| T III at T OTTI T Tadio II a OTT |                                     |  |  |  |
|----------------------------------|-------------------------------------|--|--|--|
| Isotope                          | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                           | 2.52E+01                            |  |  |  |
| Pu-238                           | 2.04E+00                            |  |  |  |
| Pu-239                           | 2.92E-02                            |  |  |  |
| Pu-240                           | 5.46E-02                            |  |  |  |
| Pu-241                           | 1.01E+03                            |  |  |  |
| Pu-242                           | 3.66E-07                            |  |  |  |

## **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the PUREX PROCESS LABORATORY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W483 Stream Name 202AL TRU CH heterogeneou                                | us S544 | 0 Non-mi  | xed         |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|---------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste   | Form H  | eterogene | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |         |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Analytical Laboratory Waste Volume Detail (m3) | Waste   |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |         |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 4.52E+00                            |
| <u> </u>   | tored   | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 3.80E-01                            |
| 55-Gallon Drum   | 1.0     | 0.0       |             | Other Metal/Alloys           | 19.97                         | Pu-239     | 4.54E-03                            |
| -  |         | 0.0       |             | Other Inorganic Materials    | 51.97                         | Pu-240     | 9.29E-03                            |
| As-Generated Total   | 1.0     | 0.0       | 1.0         | Cellulosics                  | 20.83                         | Pu-241     | 1.81E+02                            |
| Final Form Volumes   |         |           |             | Rubber                       | 0.24                          | Pu-242     | 2.28E-08                            |
|  | tored   | Proj.     | Total       | Plastics                     | 28.09                         |            |                                     |
| 55-Gallon Drum   | 1.0     | 0.0       |             | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|  |         | 0.0       |             | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 1.0     | 0.0       | 1.0         | Vitrified                    | 0.00                          |            |                                     |
|  |         |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |         |           |             | Soils                        | 0.00                          |            |                                     |
|  |         |           |             | Packaging Material, Steel    | 131.00                        |            |                                     |

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

0.00

## **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the PUREX PROCESS LABORATORY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W484 Stream Name 202S MTRU CH combust                                | tible S5319  | Mixed RC | CRA w/ met |                              |                               | Invento    | ory Date 9/30/2002                  |
|---|--|----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | al ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concen |          |            |                              |                               |            | cayed to CY 2002                    |
| Final Waste Form Descriptors  |  |          |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D  Waste Volume Detail (m3) | ) Waste  |          |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |  |          |            | Iron-Base Metal/Alloys       | 3.57                          | Am-241     | 4.99E-02                            |
| ContainerType   | Stored   | Proj.    | Total      | Aluminum-Base Metal/Alloys   | 1.19                          | Cs-137     | 6.54E-01                            |
| 55 Gallon Drum  | 0.8  | _        |            | Other Metal/Alloys           | 0.00                          | Pu-238     | 3.78E-03                            |
|   |  |          |            | Other Inorganic Materials    | 0.00                          | Pu-239     | 7.85E-02                            |
| As-Generated Total  | 8.0  | 0.0      | 8.0        | Cellulosics                  | 2.38                          | Pu-240     | 1.88E-02                            |
| Final Form Volumes  |  |          |            | Rubber                       | 0.00                          | Pu-241     | 1.85E-01                            |
| ContainerType   | Stored   | Proj.    | Total      | Plastics                     | 51.92                         | Pu-242     | 1.00E-06                            |
| 55 Gallon Drum  | 0.8  | 0.0      | 0.8        | Solidified, Inorganic Matrix | 3.57                          | Sr-90      | 5.99E-01                            |
|   |  |          |            | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 8.0  | 0.0      | 8.0        | Vitrified                    | 0.00                          |            |                                     |
|   |  |          |            | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |  |          |            | Soils                        | 0.00                          |            |                                     |
|   |  |          |            | Packaging Material, Steel    | 131.00                        |            |                                     |
|   |  |          |            | Packaging Material, Plastic  | 37.00                         |            |                                     |
|   |  |          |            | Packaging Material, Lead     | 0.00                          |            |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from Remediation/D&D Waste activities at the REDOX CANYON AND SERVICE FACILITY.

## **Management Comments**

0.00

Packaging Material, Steel Plug

## Waste Stream ID: RL-W485

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W485 Stream Name 202S MTRU CH combust                               | ible S5319 | Mixed RC  | CRA/TSCA-F | PCB w/Hg                     |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|-----------|------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Combustib | le         | Waste Matrix Code S5319      | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |            | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/D&D Waste Volume Detail (m3) | Waste      |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |            | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 1.32E-02                            |
| ContainerType  | Stored     | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 2.14E-03                            |
| 55 Gallon Drum   | 0.2        | 0.0       |            | Other Metal/Alloys           | 2.83                          | Pu-239          | 3.39E-02                            |
|  |            |           |            | Other Inorganic Materials    | 0.00                          | Pu-240          | 8.15E-03                            |
| As-Generated Total   | 0.2        | 0.0       | 0.2        | Cellulosics                  | 5.57                          | <u></u>         |                                     |
| Final Form Volumes   |            |           |            | Rubber                       | 2.83                          |                 |                                     |
| ContainerType  | Stored     | Proj.     | Total      | Plastics                     | 47.30                         |                 |                                     |
| 55 Gallon Drum   | 0.2        | 0.0       | 0.2        | Solidified, Inorganic Matrix | 0.48                          |                 |                                     |
|  |            |           |            | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0       | 0.2        | Vitrified                    | 0.00                          |                 |                                     |
|  |            |           |            | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |           |            | Soils                        | 0.00                          |                 |                                     |
|  |            |           |            | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |           |            | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |           |            | Packaging Material, Lead     | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from Remediation/D&D Waste activities at the REDOX CANYON AND SERVICE FACILITY.

## **Management Comments**

#### **RL-W486** Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W486 Stream Name 202S MTRU CH hete                               | erogeneous S54 | 140 Mixed | RCRA/TSCA-P | CB w/Hg                      |                               | Invent          | ory Date 9/30/2002                  |
|---|----------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Fina   | I Waste Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |                |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Remediation/ Waste Volume Detail (m3) | D&D Waste      |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |                |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 5.56E-03                            |
| ContainerType   | Stored         | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 9.02E-04                            |
| 55 Gallon Drum  | 0.2            | 0.0       |             | Other Metal/Alloys           | 1.17                          | Pu-239          | 1.43E-02                            |
| 00 04.10.11.214.11.   | <u> </u>       | 0.0       |             | Other Inorganic Materials    | 0.00                          | Pu-240          | 3.42E-03                            |
| As-Generated To   | otal 0.2       | 0.0       | 0.2         | Cellulosics                  | 2.33                          |                 |                                     |
| Final Form Volumes  |                |           |             | Rubber                       | 1.17                          |                 |                                     |
| ContainerType   | Stored         | Proj.     | Total       | Plastics                     | 22.00                         |                 |                                     |
| 55 Gallon Drum  | 0.2            | •         |             | Solidified, Inorganic Matrix | 3.95                          |                 |                                     |

0.2

0.2

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00 0.00

131.00 37.00

0.00

0.00

0.2

0.2

0.0

0.0

## **Waste Stream Description**

55 Gallon Drum

The waste is generated from Remediation/D&D Waste activities at the REDOX CANYON AND SERVICE FACILITY.

Final Form Total

## **Management Comments**

Stream Name 222S MTRU CH solidified inorganic S3119 Mixed RCRA w/ met HQ ID RL-W487 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002 Local ID Handling

### **Final Waste Form Descriptors**

Non-defense TRU Waste | Source: | Analytical Laboratory Waste Category:

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total 0.2 0.0 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 931.43                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 34.29                         |
| Solidified, Inorganic Matrix   | 66.67                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 31.43                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.73E-01                            |
| Pu-238  | 1.16E-01                            |
| Pu-239  | 2.05E+00                            |
| Pu-240  | 5.67E-01                            |
| Pu-241  | 6.91E+00                            |
| Pu-242  | 4.95E-05                            |

### **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the CONTROL LABORATORY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W488 Stream Name 222S MTRU CH heteroge                            | neous S54  | 40 Mixed  | RCRA w/ met |                              |                               | Invent         | ory Date 9/30/2002                  |
|----------|--|------------|-----------|-------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID | N/A Handling CH Final Wa   | ste Form ⊦ | leterogen | eous Debris | Waste Matrix Code S5440      | Activity Con                  | centrations De | ecayed to CY 2002                   |
| Final Wa | ste Form Descriptors   |            |           |             | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
|          | Olume Detail (m3)  Non-defense TRU Waste Source: Analytical Laborate | ory Waste  |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| Δs-Ge    | enerated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Cs-137         | 6.86E-03                            |
|          | inerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Sr-90          | 6.26E-03                            |
|          | llon Drum  | 0.2        | 0.0       | 0.2         | Other Metal/Alloys           | 5.62                          |                | •                                   |
| 00 00    |  | l          |           |             | Other Inorganic Materials    | 57.81                         |                |                                     |
|          | As-Generated Total   | 0.2        | 0.0       | 0.2         | Cellulosics                  | 52.81                         |                |                                     |
| Final    | Form Volumes   |            |           |             | Rubber                       | 0.00                          |                |                                     |
| Conta    | inerType   | Stored     | Proj.     | Total       | Plastics                     | 44.71                         |                |                                     |
|          | llon Drum  | 0.2        | 0.0       | 0.2         | Solidified, Inorganic Matrix | 0.00                          |                |                                     |
|          |  |            |           | <u>_</u>    | Cement (Solidified)          | 0.00                          |                |                                     |
|          | Final Form Total   | 0.2        | 0.0       | 0.2         | Vitrified                    | 0.00                          |                |                                     |
|          |  |            |           |             | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|          |  |            |           |             | Soils                        | 24.29                         |                |                                     |
|          |  |            |           |             | Packaging Material, Steel    | 131.00                        |                |                                     |
|          |  |            |           |             | Packaging Material Plastic   | 37.00                         |                |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

## **Waste Stream Description**

The waste is generated from Analytical Laboratory Waste activities at the CONTROL LABORATORY.

## **Management Comments**

#### Appendix J Waste Stream ID: **RL-W489** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 231Z MTRU CH inorganic non-metal S5190 Mixed State Reg HQ ID RL-W489 Inventory Date 9/30/2002 N/A CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5190 Activity Concentrations Decayed to CY 2002 Local ID Handling

## **Final Waste Form Descriptors**

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total 0.2 0.0

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 174.76                        |
| Other Inorganic Materials      | 2.38                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 14.29                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.69E-01                            |
| Cs-137  | 5.72E-03                            |
| Pu-238  | 1.09E-01                            |
| Pu-239  | 2.66E+00                            |
| Pu-240  | 6.04E-01                            |
| Pu-241  | 1.12E+01                            |
| Pu-242  | 2.69E-05                            |
| Sr-90   | 5.22E-03                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W490 Stream Name 231Z MTRU CH filter S54                               | 10 Mixed S | State Reg |       |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
|   | ste Form F |           |       | Waste Matrix Code S5410      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Non-defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |       | Iron-Base Metal/Alloys       | 0.00                          | Cs-137     | 3.79E-05                            |
| ContainerType   | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Sr-90      | 3.45E-05                            |
| Standard Waste Box  | 1.9        | 0.0       |       | Other Metal/Alloys           | 0.00                          |            |                                     |
| 5.6.1.6.1.6.1.7.1.1.1.1.1.1.1.1.1.1.1.1.1                                       | <u> </u>   |           |       | Other Inorganic Materials    | 48.47                         |            |                                     |
| As-Generated Total  | 1.9        | 0.0       | 1.9   | Cellulosics                  | 0.00                          |            |                                     |
| Final Form Volumes  |            |           |       | Rubber                       | 0.00                          |            |                                     |
| ContainerType   | Stored     | Proj.     | Total | Plastics                     | 1.05                          |            |                                     |
| Standard Waste Box  | 1.9        | 0.0       | 1.9   | Solidified, Inorganic Matrix | 0.65                          |            |                                     |
|   |            |           |       | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 1.9        | 0.0       | 1.9   | Vitrified                    | 0.00                          |            |                                     |
|   |            |           |       | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |            |           |       | Soils                        | 0.00                          |            |                                     |
|   |            |           |       | Packaging Material, Steel    | 154.00                        |            |                                     |
|   |            |           |       | Packaging Material, Plastic  | 1.20                          |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W491 Stream Name 231Z MTRU CH heteroge                              |            |           |             | g                            |                               | Invento         | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5420      | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 6.55E-02                            |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 4.77E-03                            |
| 55 Gallon Drum   | 0.2        | 0.0       |             | Other Metal/Alloys           | 173.33                        | Pu-238          | 9.23E-02                            |
|  |            |           |             | Other Inorganic Materials    | 0.00                          | Pu-239          | 2.79E-01                            |
| As-Generated Total   | 0.2        | 0.0       | 0.2         | Cellulosics                  | 0.95                          | Pu-240          | 6.13E-02                            |
| Final Form Volumes   |            |           |             | Rubber                       | 0.00                          | Pu-241          | 4.05E+00                            |
| ContainerType  | Stored     | Proj.     | Total       | Plastics                     | 22.86                         | Pu-242          | 1.30E-05                            |
| 55 Gallon Drum   | 0.2        | 0.0       | 0.2         | Solidified, Inorganic Matrix | 66.66                         | Sr-90           | 4.35E-03                            |
|  |            |           |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0       | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|  |            |           |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |           |             | Soils                        | 0.00                          |                 |                                     |
|  |            |           |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |           |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |           |             | Packaging Material, Lead     | 0.00                          |                 |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

Stream Name 231Z MTRU CH heterogeneous S5420 Mixed State Reg HQ ID RL-W492 Inventory Date 9/30/2002 N/A CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** 

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    | -      |       |       |

| Final Form volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 47.62                         |
| Other Inorganic Materials      | 4.29                          |
| Cellulosics                    | 70.00                         |
| Rubber                         | 0.00                          |
| Plastics                       | 5.71                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.81E-03                            |
| Cs-137  | 4.77E-04                            |
| Pu-238  | 2.28E-03                            |
| Pu-239  | 5.55E-02                            |
| Pu-240  | 1.26E-02                            |
| Pu-241  | 2.33E-01                            |
| Pu-242  | 5.61E-07                            |
| Sr-90   | 4.35E-04                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W493 Stream Name 231Z MTRU CH heterogene                              | eous S54  | 140 Mixed | State Reg   |                              |                               | Invent     | tory Date 9/30/2002                 |
|--|-----------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wast  | te Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |           |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborato  Waste Volume Detail (m3) | ory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys       | 0.00                          | Cs-137     | 6.86E-03                            |
|  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Sr-90      | 6.26E-03                            |
| 55 Gallon Drum   | 0.2       |           |             | Other Metal/Alloys           | 0.00                          | <u></u>    |                                     |
|  |           |           |             | Other Inorganic Materials    | 9.52                          |            |                                     |
| As-Generated Total   | 0.2       | 0.0       | 0.2         | Cellulosics                  | 148.57                        |            |                                     |
| Final Form Volumes   |           |           | 1           | Rubber                       | 0.00                          |            |                                     |
| ContainerType  | Stored    | Proj.     | Total       | Plastics                     | 11.43                         |            |                                     |
| 55 Gallon Drum   | 0.2       | 0.0       |             | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|  | !         |           |             | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 0.2       | 0.0       | 0.2         | Vitrified                    | 0.00                          |            |                                     |
|  |           |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |           |           |             | Soils                        | 0.00                          |            |                                     |
|  |           |           |             | Packaging Material, Steel    | 131.00                        |            |                                     |
|  |           |           |             | Packaging Material, Plastic  | 37.00                         |            |                                     |
|  |           |           |             | Packaging Material, Lead     | 0.00                          |            |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

## Waste Stream ID: RL-W494 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W494 Stream Name 231Z TRU CH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 77.5   | 0.0   | 77.5  |
|                      | As-Generated Total | 77.5   | 0.0   | 77.5  |
| Final Form Volumes   |                    |        |       |       |

| ContainerType      |                  | Stored | Proj. | Total |
|--------------------|------------------|--------|-------|-------|
| Standard Waste Box |                  | 77.5   | 0.0   | 77.5  |
|                    | Final Form Total | 77.5   | 0.0   | 77.5  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 71.25                         |
| Other Inorganic Materials      | 0.13                          |
| Cellulosics                    | 4.46                          |
| Rubber                         | 1.06                          |
| Plastics                       | 13.97                         |
| Solidified, Inorganic Matrix   | 63.37                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.00E-01                            |
| Pu-238  | 3.57E-01                            |
| Pu-239  | 3.81E-03                            |
| Pu-240  | 3.27E-03                            |
| Pu-241  | 2.53E+01                            |
| Pu-242  | 2.94E-08                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

## Waste Stream ID: RL-W495 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W495 Stream Name 231Z TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 353.84                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 16.11                         |
| Solidified, Inorganic Matrix   | 9.61                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.33E+00                            |
| Pu-238  | 1.81E-01                            |
| Pu-239  | 6.79E-03                            |
| Pu-240  | 5.43E-03                            |
| Pu-241  | 8.58E+01                            |
| Pu-242  | 1.67E-09                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

#### **Management Comments**

## Waste Stream ID: RL-W496 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W496 Stream Name 231Z TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 644.69                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 2.40                          |
| Rubber                         | 9.63                          |
| Plastics                       | 28.84                         |
| Solidified, Inorganic Matrix   | 14.42                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.94                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.74E+01                            |
| Pu-238  | 4.17E+00                            |
| Pu-239  | 4.47E-02                            |
| Pu-240  | 3.60E-02                            |
| Pu-241  | 1.11E+03                            |
| Pu-242  | 1.56E-08                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the MATERIALS ENGINEERING LABORATORY.

## **Management Comments**

## Waste Stream ID: RL-W497 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W497 Stream Name 233S TRU CH inorganic non-metal S5190 Non-mixed

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5190 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Remediation/D&D Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.95                          |
| Other Inorganic Materials      | 97.38                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.26                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.46                          |
| Soils                          | 48.95                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.31E+00                            |  |  |
| Pu-238  | 8.12E-01                            |  |  |
| Pu-239  | 2.66E+00                            |  |  |
| Pu-240  | 1.21E+00                            |  |  |
| Pu-241  | 2.88E+01                            |  |  |
| Pu-242  | 2.24E-03                            |  |  |

### **Waste Stream Description**

The waste is generated from Remediation/D&D Waste activities at the PLUTONIUM CONCENTRATION FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W498 | Stream Name | 2345Z M | TRU CH solidified organics L2290 Mixed RCRA/TS | SCA-PCB w/ ign          |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|--|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Solidified Organics           | Waste Matrix Code L2290 | Activity Cond | centrations Decayed to CY 2002 |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| 55 Gallon Drum       |                   | 1.0    | 338.1 | 339.1 |
| As                   | s-Generated Total | 1.0    | 338.1 | 339.1 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.0    | 338.1 | 339.1 |
|                    | Final Form Total | 1.0    | 338.1 | 339.1 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.96                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 50.11                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 124.80                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| 1.10E-03                            |  |  |  |  |  |
| 3.56E-04                            |  |  |  |  |  |
| 1.34E-02                            |  |  |  |  |  |
| 2.99E-03                            |  |  |  |  |  |
| 4.42E-02                            |  |  |  |  |  |
| 1.80E-07                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

HQ ID RL-W499 Stream Name 2345Z MTRU CH solidified organics L2290 Mixed TSCA-PCB Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Organics Waste Matrix Code L2290 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 40.00                         |
| Solidified, Inorganic Matrix   | 21.90                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 161.90                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.36E-05                            |
| Pu-238  | 1.09E-05                            |
| Pu-239  | 4.07E-04                            |
| Pu-240  | 9.12E-05                            |
| Pu-241  | 1.35E-03                            |
| Pu-242  | 5.49E-09                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W500 | Stream Name | 2345Z TF | RU CH solidified inorganic S3119 Non-mixed |                         |               | Inventory Date 9/30/2002       | 2        |
|----------|---------|-------------|----------|--|-------------------------|---------------|--------------------------------|----------|
| Local ID | N/A     | Handling    | CH       | Final Waste Form Solidified Inorganics     | Waste Matrix Code S3119 | Activity Cond | centrations Decayed to CY 2002 | <u>?</u> |
|          |         |             |          |  |                         |               |                                |          |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 19.05                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 18.10                         |
| Solidified, Inorganic Matrix   | 20.48                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i Oliii ik | adionaonaes                         |
|--------------------|-------------------------------------|
| Isotope            | Typical<br>Concentration<br>(Ci/m3) |
| Am-241             | 2.43E-03                            |
| Pu-238             | 1.35E-03                            |
| Pu-239             | 1.66E-02                            |
| Pu-240             | 3.70E-03                            |
| Pu-241             | 9.46E-02                            |
| Pu-242             | 2.21E-07                            |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W501 | Stream Name | 2345Z M | TRU CH solidified inorganic S3119 Mixed RCRA w | / org,met         |       |               | Inventory Date        | 9/30/2002 |
|----------|---------|-------------|---------|--|-------------------|-------|---------------|-----------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Solidified Inorganics         | Waste Matrix Code | S3119 | Activity Cond | entrations Decayed to | CY 2002   |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 55 Gallon Drum       |                           | 0.4    | 25.6  | 26.0  |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 0.4    | 25.6  | 26.0  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 25.6  | 26.0  |
|                    | Final Form Total | 0.4    | 25.6  | 26.0  |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 10.71                         |
| Other Inorganic Materials      | 11.19                         |
| Cellulosics                    | 1.19                          |
| Rubber                         | 0.48                          |
| Plastics                       | 45.48                         |
| Solidified, Inorganic Matrix   | 68.10                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 6.19                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 6.73E-01                            |  |  |  |
| Pu-238  | 1.16E-01                            |  |  |  |
| Pu-239  | 2.05E+00                            |  |  |  |
| Pu-240  | 5.67E-01                            |  |  |  |
| Pu-241  | 6.91E+00                            |  |  |  |
| Pu-242  | 4.95E-05                            |  |  |  |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

## Waste Stream ID: RL-W502 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W502 Stream Name 2345Z MTRU CH solidified inorganic S3119 Mixed RCRA w/ org Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 3.1    | 0.0   | 3.1   |
|                      | As-Generated Total | 3.1    | 0.0   | 3.1   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.1    | 0.0   | 3.1   |
|                    | Final Form Total | 3.1    | 0.0   | 3.1   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.22                          |
| Other Inorganic Materials      | 34.16                         |
| Cellulosics                    | 2.76                          |
| Rubber                         | 0.06                          |
| Plastics                       | 54.83                         |
| Solidified, Inorganic Matrix   | 117.71                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.41                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.20E-03                            |
| Pu-238  | 3.86E-04                            |
| Pu-239  | 1.45E-02                            |
| Pu-240  | 3.25E-03                            |
| Pu-241  | 4.79E-02                            |
| Pu-242  | 1.95E-07                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W503 | Stream Name | 2345Z M | TRU CH solidified inorganic S3119 Mixed RCRA w | v/ met                  |               | Inventory Date 9/3       | 30/2002       |
|----------|---------|-------------|---------|--|-------------------------|---------------|--------------------------|---------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Solidified Inorganics         | Waste Matrix Code S3119 | Activity Cond | centrations Decayed to C | <b>Y</b> 2002 |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.24                          |
| Other Inorganic Materials      | 3.10                          |
| Cellulosics                    | 1.67                          |
| Rubber                         | 46.90                         |
| Plastics                       | 37.98                         |
| Solidified, Inorganic Matrix   | 249.45                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 5.90                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.05E-01                            |
| Cs-137  | 2.92E-03                            |
| Pu-238  | 2.99E-01                            |
| Pu-239  | 3.84E+00                            |
| Pu-240  | 8.53E-01                            |
| Pu-241  | 2.11E+01                            |
| Pu-242  | 4.93E-05                            |
| Sr-90   | 2.67E-03                            |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

## Waste Stream ID: RL-W504 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W504 Stream Name 2345Z MTRU CH solidified inorganic S3119 Mixed RCRA w/ met,Hg,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.52                          |
| Solidified, Inorganic Matrix   | 7.38                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.38                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.73E-01                            |
| Pu-238  | 1.16E-01                            |
| Pu-239  | 2.05E+00                            |
| Pu-240  | 5.67E-01                            |
| Pu-241  | 6.91E+00                            |
| Pu-242  | 4.95E-05                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

## **Management Comments**

Stream Name 2345Z MTRU CH solidified inorganic S3119 Mixed RCRA w/ ign HQ ID RL-W505 Inventory Date 9/30/2002 Final Waste Form Solidified Inorganics N/A CH Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002 Local ID Handling

**Final Waste Form Descriptors** 

Category: Defense TRU Waste **Source:** Facility/Equipment Operation and Maintenance

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

0.0 Final Form Total 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 3.33                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 25.24                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.30E-02                            |
| Cs-137  | 4.77E-04                            |
| Pu-238  | 6.07E-03                            |
| Pu-239  | 2.22E-01                            |
| Pu-240  | 4.97E-02                            |
| Pu-241  | 8.68E-01                            |
| Pu-242  | 2.99E-06                            |
| Sr-90   | 4.35E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W506 Stream Name 2345Z MTRU CH solidified inorganic S3119 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 9.52                          |
| Other Inorganic Materials      | 3.17                          |
| Cellulosics                    | 2.86                          |
| Rubber                         | 0.00                          |
| Plastics                       | 59.05                         |
| Solidified, Inorganic Matrix   | 88.35                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 2.19E-03                            |
| 7.98E-04                            |
| 2.43E-02                            |
| 5.44E-03                            |
| 8.65E-02                            |
| 3.27E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

### Waste Stream ID: RL-W507

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| Final Wa | ste Form Descrip | tors        |         |  | Waste Material Parameters | Final Form Radionuclides                   |
|----------|------------------|-------------|---------|--|---------------------------|--|
| Local ID | N/A              | Handling    | СН      | Final Waste Form Solidified Inorganics           | Waste Matrix Code S3119   | Activity Concentrations Decayed to CY 2002 |
| HQ ID    | RL-W507          | Stream Name | 2345Z M | TRU CH solidified inorganic S3119 Mixed TSCA-PCB |                           | Inventory Date 9/30/2002                   |

|           | •                 |  |
|-----------|-------------------|--|
| Category: | Defense TRU Waste | Facility/Equipment Operation and Maintenance |
|           |                   | Waste  |

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 3.17                          |
| Rubber                         | 0.95                          |
| Plastics                       | 19.05                         |
| Solidified, Inorganic Matrix   | 149.84                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.16E-04                            |
| Pu-238  | 6.98E-05                            |
| Pu-239  | 2.62E-03                            |
| Pu-240  | 5.87E-04                            |
| Pu-241  | 8.66E-03                            |
| Pu-242  | 3.53E-08                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W508 Stream Name 2345Z MTRU CH solidified inorganic S3150 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3150 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W508** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 48.02                         |
| Solidified, Inorganic Matrix   | 129.76                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 9.52                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.16E+00                            |
| Cs-137  | 5.22E-03                            |
| Pu-238  | 2.29E+00                            |
| Pu-239  | 2.84E+01                            |
| Pu-240  | 6.33E+00                            |
| Pu-241  | 1.54E+02                            |
| Pu-242  | 3.76E-04                            |
| Sr-90   | 4.77E-03                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W509 Stream Name 2345Z MTRU CH solidified inorganic S3150 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3150 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        | (                 | Stored | Proj. | Total |
| 55 Gallon Drum       |                   | 4.8    | 0.0   | 4.8   |
| Α.                   | s-Generated Total | 4.8    | 0.0   | 4.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.8    | 0.0   | 4.8   |
|                    | Final Form Total | 4.8    | 0.0   | 4.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 33.31                         |
| Solidified, Inorganic Matrix   | 148.04                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.76                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.19E+00                            |
| Cs-137  | 5.21E-03                            |
| Pu-238  | 2.39E+00                            |
| Pu-239  | 3.02E+01                            |
| Pu-240  | 7.44E+00                            |
| Pu-241  | 1.44E+02                            |
| Pu-242  | 6.40E-04                            |
| Sr-90   | 4.77E-03                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W510 Stream Name 2345Z MTRU CH solidified inorganic S3150 Mixed State Reg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3150 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 3.4    | 0.0   | 3.4   |
|                      | As-Generated Total | 3.4    | 0.0   | 3.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.4    | 0.0   | 3.4   |
|                    | Final Form Total | 3.4    | 0.0   | 3.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.34                          |
| Other Inorganic Materials      | 12.65                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 32.19                         |
| Solidified, Inorganic Matrix   | 167.19                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 6.24E-01                            |  |  |  |  |
| Pu-238  | 3.50E-01                            |  |  |  |  |
| Pu-239  | 4.31E+00                            |  |  |  |  |
| Pu-240  | 9.60E-01                            |  |  |  |  |
| Pu-241  | 2.46E+01                            |  |  |  |  |
| Pu-242  | 5.70E-05                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

### Waste Stream ID: RL-W511

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | ID RL-W511 Stream Name 2345Z MTRU CH solidified inorganic S3190 Mixed RCRA w/ org,met,Hg |          |    |  |                   | Inventory Date | 9/30/2002    |                        |         |
|----------|--|----------|----|--|-------------------|----------------|--------------|------------------------|---------|
| Local ID | N/A  | Handling | СН | Final Waste Form Solidified Inorganics | Waste Matrix Code | S3190          | Activity Con | centrations Decayed to | CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 52.9   | 0.0   | 52.9  |
|                      | As-Generated Total | 52.9   | 0.0   | 52.9  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 52.9   | 0.0   | 52.9  |
|                    |        |       |       |

**Final Form Total** 52.9 0.0 52.9

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.92                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 4.13                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.56                          |
| Solidified, Inorganic Matrix   | 13.97                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.58E+00                            |
| Pu-238  | 1.08E+00                            |
| Pu-239  | 3.66E+01                            |
| Pu-240  | 8.05E+00                            |
| Pu-241  | 8.51E+01                            |
| Pu-242  | 8.84E-04                            |
| U-234   | 6.50E-06                            |
| U-235   | 2.25E-06                            |
| U-236   | 2.66E-07                            |
| U-238   | 1.85E-08                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

Stream Name 2345Z MTRU CH solidified inorganic S3190 Mixed RCRA w/ met HQ ID RL-W512 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Waste Matrix Code S3190 Activity Concentrations Decayed to CY 2002 Local ID Handling

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste **Source:** Facility/Equipment Operation and Maintenance

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 31.3   | 0.0   | 31.3  |
|                      | As-Generated Total | 31.3   | 0.0   | 31.3  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 31.3   | 0.0   | 31.3  |
|                    | Final Form Total | 31.3   | 0.0   | 31.3  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.59                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.13                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 2.19                          |
| Solidified, Inorganic Matrix   | 12.10                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|-------------------------------------|--|--|--|--|
| 1.15E+01                            |  |  |  |  |
| 1.23E+00                            |  |  |  |  |
| 3.73E+01                            |  |  |  |  |
| 9.33E+00                            |  |  |  |  |
| 7.34E+01                            |  |  |  |  |
| 8.30E-04                            |  |  |  |  |
|                                     |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W513 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W513 Stream Name 2345Z TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |            |        |        |        |
|----------------------|------------|--------|--------|--------|
| ContainerType        |            | Stored | Proj.  | Total  |
| 55 Gallon Drum       |            | 0.6    | 742.3  | 743.0  |
| Standard Waste Box   |            | 1.9    | 3427.6 | 3429.5 |
| As-Genei             | ated Total | 2.5    | 4169.9 | 4172.5 |

| Final Form Volumes |                  |        |        |        |
|--------------------|------------------|--------|--------|--------|
| ContainerType      |                  | Stored | Proj.  | Total  |
| 55 Gallon Drum     |                  | 0.6    | 742.3  | 743.0  |
| Standard Waste Box |                  | 1.9    | 3427.6 | 3429.5 |
|                    | Final Form Total | 2.5    | 4169.9 | 4172.5 |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 127.75                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.13                          |
| Rubber                         | 0.04                          |
| Plastics                       | 6.97                          |
| Solidified, Inorganic Matrix   | 14.38                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 149.90                        |
| Packaging Material, Plastic    | 7.57                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.91E+00                            |
| Pu-238  | 1.77E+00                            |
| Pu-239  | 2.17E+00                            |
| Pu-240  | 1.08E+00                            |
| Pu-241  | 4.15E+01                            |
| Pu-242  | 6.97E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

| HQ ID    | RL-W514 | Stream Name | 2345Z M | ITRU CH uncategorized metal S5119 Mixed RCRA | w/ met                  |               | Inventory Date 9/30       | 0/2002 |
|----------|---------|-------------|---------|--|-------------------------|---------------|---------------------------|--------|
| Local ID | N/A     | Handling    | CH      | Final Waste Form Uncategorized Metal         | Waste Matrix Code S5119 | Activity Cond | centrations Decayed to CY | 2002   |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 445.81                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 8.48                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.45                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.41E-03                            |
| Pu-238  | 4.26E-04                            |
| Pu-239  | 1.61E-02                            |
| Pu-240  | 3.61E-03                            |
| Pu-241  | 5.08E-02                            |
| Pu-242  | 2.18E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W515 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W515 Stream Name 2345Z MTRU CH uncategorized metal S5119 Mixed RCRA w/ met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.4    | 0.0   | 0.4   |
| Standard Waste Box   | 7.6    | 0.0   | 7.6   |
| As-Generated Total   | 8.0    | 0.0   | 8.0   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.4    | 0.0   | 0.4   |
| Standard Waste Box | 7.6    | 0.0   | 7.6   |
|                    | 0.0    | 0.0   | 0.0   |

Final Form Total 8.0 0.0 8.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 233.95                        |
| Other Inorganic Materials      | 0.71                          |
| Cellulosics                    | 4.98                          |
| Rubber                         | 0.34                          |
| Plastics                       | 12.16                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 152.80                        |
| Packaging Material, Plastic    | 3.07                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.72E-03                            |
| Pu-238  | 8.76E-04                            |
| Pu-239  | 3.29E-02                            |
| Pu-240  | 7.36E-03                            |
| Pu-241  | 1.09E-01                            |
| Pu-242  | 4.43E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W516 Stream Name 2345Z MTRU CH uncategorized metal S5119 Mixed RCRA/TSCA-PCB w/Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W516** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| Standard Waste Box   |                           | 26.6   | 0.0   | 26.6  |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 26.6   | 0.0   | 26.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 26.6   | 0.0   | 26.6  |
|                    | Final Form Total | 26.6   | 0.0   | 26.6  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.78                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 234.92                        |
| Other Inorganic Materials      | 3.59                          |
| Cellulosics                    | 2.88                          |
| Rubber                         | 0.00                          |
| Plastics                       | 10.68                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.03                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Tillari Offir Radionaoliacs |                                     |  |  |  |
|-----------------------------|-------------------------------------|--|--|--|
| Isotope                     | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                      | 1.13E-03                            |  |  |  |
| Pu-238                      | 3.66E-04                            |  |  |  |
| Pu-239                      | 1.37E-02                            |  |  |  |
| Pu-240                      | 3.08E-03                            |  |  |  |
| Pu-241                      | 4.54E-02                            |  |  |  |
| Pu-242                      | 1.85E-07                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W517 Stream Name 2345Z MTRU CH inorganic non-metal S5123 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5123 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W517** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1666.67                       |
| Cellulosics                    | 4.76                          |
| Rubber                         | 0.00                          |
| Plastics                       | 19.05                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.19E-09                            |
| Pu-238  | 4.15E-10                            |
| Pu-239  | 1.55E-08                            |
| Pu-240  | 3.46E-09                            |
| Pu-241  | 5.37E-08                            |
| Pu-242  | 2.09E-13                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W518 Stream Name 2345Z TRU CH combustible S5319 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Waste Stream ID:

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 8.0    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 9.34                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 7.55                          |
| Rubber                         | 16.84                         |
| Plastics                       | 103.60                        |
| Solidified, Inorganic Matrix   | 10.89                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 3.57                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.16E+00                            |
| Pu-238  | 4.37E-01                            |
| Pu-239  | 5.55E+00                            |
| Pu-240  | 1.34E+00                            |
| Pu-241  | 2.89E+01                            |
| Pu-242  | 1.13E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W519 Stream Name 2345Z MTRU CH combustible S5319 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.7    | 0.0   | 1.7   |
|                      | As-Generated Total | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 31.55                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 13.03                         |
| Other Inorganic Materials      | 0.36                          |
| Cellulosics                    | 9.66                          |
| Rubber                         | 57.40                         |
| Plastics                       | 91.29                         |
| Solidified, Inorganic Matrix   | 0.12                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 1.19                          |
| Soils                          | 10.69                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 8.68E-02                            |
| 2.59E-02                            |
| 9.82E-01                            |
| 2.20E-01                            |
| 3.05E+00                            |
| 1.32E-05                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W520 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W520 Stream Name 2345Z MTRU CH combustible S5319 Mixed RCRA w/ met,Hg

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |
|                      | AS-Generated Total | 0.4    | 0.0   | 0     |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 280.81                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 14.29                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 104.62                        |
| Plastics                       | 38.14                         |
| Solidified, Inorganic Matrix   | 0.55                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.07                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.10E-02                            |
| Pu-238  | 1.17E-02                            |
| Pu-239  | 4.31E-01                            |
| Pu-240  | 9.65E-02                            |
| Pu-241  | 1.57E+00                            |
| Pu-242  | 5.81E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W521 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W521 Stream Name 2345Z MTRU CH combustible S5319 Mixed RCRA/TSCA-PCB w/ ign Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 26.19                         |
| Rubber                         | 16.67                         |
| Plastics                       | 128.57                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 18.95                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.33E-03                            |
| Pu-238  | 4.28E-04                            |
| Pu-239  | 1.61E-02                            |
| Pu-240  | 3.60E-03                            |
| Pu-241  | 5.31E-02                            |
| Pu-242  | 2.17E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

| HQ ID    | RL-W522 | Stream Name | 2345Z T | RU CH combustible S5330 Non-mixed |                         |              | Inventory Date 9/3       | 30/2002 |
|----------|---------|-------------|---------|-----------------------------------|-------------------------|--------------|--------------------------|---------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Combustible      | Waste Matrix Code S5330 | Activity Con | centrations Decayed to C | Y 2002  |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.3    | 0.0   | 2.3   |
|                      | As-Generated Total | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.3    | 0.0   | 2.3   |
|                    | Final Form Total | 2.3    | 0.0   | 2.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 1.73                          |
| Cellulosics                    | 169.33                        |
| Rubber                         | 2.05                          |
| Plastics                       | 3.81                          |
| Solidified, Inorganic Matrix   | 4.76                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.59E+00                            |
| Pu-238  | 1.44E+00                            |
| Pu-239  | 9.66E+00                            |
| Pu-240  | 2.78E+00                            |
| Pu-241  | 7.03E+01                            |
| Pu-242  | 3.72E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W523 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W523 Stream Name 2345Z MTRU CH combustible S5330 Mixed RCRA w/ met,Hg

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5330 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.02                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 109.05                        |
| Rubber                         | 0.00                          |
| Plastics                       | 3.81                          |
| Solidified, Inorganic Matrix   | 5.10                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.46E+01                            |
| Pu-238  | 6.02E+00                            |
| Pu-239  | 7.04E+00                            |
| Pu-240  | 4.30E+00                            |
| Pu-241  | 1.53E+02                            |
| Pu-242  | 3.02E-03                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W524 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W524 Stream Name 2345Z TRU CH combustible S5390 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.7    | 0.0   | 2.7   |
|                      | As-Generated Total | 2.7    | 0.0   | 2.7   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 2.7    | 0.0   | 2.7   |
|                    |        |       |       |

**Final Form Total** 2.7 0.0 2.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.37                         |
| Other Inorganic Materials      | 2.56                          |
| Cellulosics                    | 49.32                         |
| Rubber                         | 17.14                         |
| Plastics                       | 37.93                         |
| Solidified, Inorganic Matrix   | 10.84                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.10                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.41E+00                            |
| Pu-238  | 1.78E+00                            |
| Pu-239  | 4.98E+00                            |
| Pu-240  | 1.94E+00                            |
| Pu-241  | 5.59E+01                            |
| Pu-242  | 6.22E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W525 Stream Name 2345Z MTRU CH combustible S5390 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.01                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 31.75                         |
| Other Inorganic Materials      | 3.17                          |
| Cellulosics                    | 75.24                         |
| Rubber                         | 28.57                         |
| Plastics                       | 50.63                         |
| Solidified, Inorganic Matrix   | 1.43                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 7.94                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|-------------------------------------|--|--|--|
| 1.52E+00                            |  |  |  |
| 5.22E-01                            |  |  |  |
| 2.55E+00                            |  |  |  |
| 8.50E-01                            |  |  |  |
| 1.91E+01                            |  |  |  |
| 9.65E-05                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W526 Stream Name 2345Z MTRU CH combustible S5390 Mixed State Reg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W526** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |         |       |       |
|----------------------|---------|-------|-------|
| ContainerType        | Stored  | Proj. | Total |
| 55 Gallon Drum       | 1.0     | 0.0   | 1.0   |
| Standard Waste Box   | 13.3    | 0.0   | 13.3  |
| As-Generated Tota    | al 14.4 | 0.0   | 14.4  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.0    | 0.0   | 1.0   |
| Standard Waste Box |                  | 13.3   | 0.0   | 13.3  |
|                    | Final Form Total | 14.4   | 0.0   | 14.4  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.24                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 69.55                         |
| Rubber                         | 0.28                          |
| Plastics                       | 29.37                         |
| Solidified, Inorganic Matrix   | 0.64                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 9.46                          |
| Packaging Material, Steel      | 152.32                        |
| Packaging Material, Plastic    | 3.82                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.53E-01                            |
| Cs-137  | 1.89E-04                            |
| Pu-238  | 8.31E-02                            |
| Pu-239  | 1.20E+00                            |
| Pu-240  | 2.69E-01                            |
| Pu-241  | 6.08E+00                            |
| Pu-242  | 1.62E-05                            |
| Sr-90   | 1.73E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

| HQ ID    | RL-W527 | Stream Name | 2345Z T | RU CH filter S5410 Non-mixed |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Filter      | Waste Matrix Code S5410 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

**RL-W527** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 3.37                          |
| Other Inorganic Materials      | 84.23                         |
| Cellulosics                    | 12.13                         |
| Rubber                         | 6.06                          |
| Plastics                       | 33.46                         |
| Solidified, Inorganic Matrix   | 4.76                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.04E+00                            |
| Pu-238  | 8.17E-01                            |
| Pu-239  | 8.65E+00                            |
| Pu-240  | 2.07E+00                            |
| Pu-241  | 4.85E+01                            |
| Pu-242  | 1.77E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W528 Stream Name 2345Z TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W528** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 3.4    | 0.0   | 3.4   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 5.3    | 0.0   | 5.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.4    | 0.0   | 3.4   |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 5.3    | 0.0   | 5.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 3.62                          |
| Other Metal/Alloys             | 120.00                        |
| Other Inorganic Materials      | 5.98                          |
| Cellulosics                    | 2.51                          |
| Rubber                         | 1.10                          |
| Plastics                       | 12.45                         |
| Solidified, Inorganic Matrix   | 2.58                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 139.31                        |
| Packaging Material, Plastic    | 24.07                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.83E+01                            |
| Pu-238  | 1.39E+01                            |
| Pu-239  | 1.10E+01                            |
| Pu-240  | 1.06E+01                            |
| Pu-241  | 2.97E+02                            |
| Pu-242  | 1.40E-02                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W529 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed RCRA w/ Org,Met,Cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Tot     | al 19  | 0.0   | 1.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 1.9    | 0.0   | 1.9   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 253.34                        |
| Other Inorganic Materials      | 59.93                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 16.16                         |
| Plastics                       | 59.53                         |
| Solidified, Inorganic Matrix   | 7.89                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| mai i omi itaalonaciiaes            |  |  |  |
|-------------------------------------|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| 4.93E-02                            |  |  |  |
| 5.40E-04                            |  |  |  |
| 2.71E-02                            |  |  |  |
| 3.37E-01                            |  |  |  |
| 7.50E-02                            |  |  |  |
| 1.81E+00                            |  |  |  |
| 4.45E-06                            |  |  |  |
| 4.92E-04                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W530 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W530 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |
|                      | AS-Generated Total | 0.4    | 0.0   | 0     |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.81                         |
| Other Inorganic Materials      | 92.86                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 16.67                         |
| Solidified, Inorganic Matrix   | 0.24                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.53E+00                            |
| Pu-238  | 1.42E+00                            |
| Pu-239  | 1.74E+01                            |
| Pu-240  | 3.89E+00                            |
| Pu-241  | 9.95E+01                            |
| Pu-242  | 2.31E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W531 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 3.6    | 0.0   | 3.6   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 5.5    | 0.0   | 5.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.6    | 0.0   | 3.6   |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 5.5    | 0.0   | 5.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 31.85                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 76.17                         |
| Other Inorganic Materials      | 2.48                          |
| Cellulosics                    | 7.71                          |
| Rubber                         | 15.25                         |
| Plastics                       | 22.89                         |
| Solidified, Inorganic Matrix   | 23.75                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 8.03                          |
| Packaging Material, Steel      | 138.99                        |
| Packaging Material, Plastic    | 24.56                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 2.04E+01                            |
| 1.09E+01                            |
| 5.78E+00                            |
| 4.18E+00                            |
| 2.03E+02                            |
| 5.20E-03                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W532 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed RCRA/TSCA-PCB w/Hg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W532** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 30.4   | 0.0   | 30.4  |
|                      | As-Generated Total | 30.4   | 0.0   | 30.4  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 30.4   | 0.0   | 30.4  |
|                    | -      |       |       |

 Final Form Total
 30.4
 0.0
 30.4

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.40                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 178.72                        |
| Other Inorganic Materials      | 33.45                         |
| Cellulosics                    | 4.11                          |
| Rubber                         | 0.00                          |
| Plastics                       | 19.88                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|-------------------------------------|--|--|--|
| 6.62E-03                            |  |  |  |
| 2.14E-03                            |  |  |  |
| 8.02E-02                            |  |  |  |
| 1.80E-02                            |  |  |  |
| 2.65E-01                            |  |  |  |
| 1.08E-06                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W533 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W533** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 3.8    | 0.0   | 3.8   |
| 1                    | As-Generated Total | 3.8    | 0.0   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 3.8    | 0.0   | 3.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 23.42                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 2.11                          |
| Rubber                         | 1.58                          |
| Plastics                       | 25.00                         |
| Solidified, Inorganic Matrix   | 0.01                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.11                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Tillari olili kaalollaollaoo |                                     |  |  |  |
|------------------------------|-------------------------------------|--|--|--|
| Isotope                      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                       | 2.70E-02                            |  |  |  |
| Cs-137                       | 2.70E-05                            |  |  |  |
| Pu-238                       | 1.48E-02                            |  |  |  |
| Pu-239                       | 1.84E-01                            |  |  |  |
| Pu-240                       | 4.09E-02                            |  |  |  |
| Pu-241                       | 9.82E-01                            |  |  |  |
| Pu-242                       | 2.43E-06                            |  |  |  |
| Sr-90                        | 2.46E-05                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W534 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W534 Stream Name 2345Z MTRU CH heterogeneous S5420 Mixed TSCA-PCB Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 261.90                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 52.38                         |
| Solidified, Inorganic Matrix   | 23.81                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 9.52                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.67E-05                            |
| Pu-238  | 8.64E-06                            |
| Pu-239  | 3.24E-04                            |
| Pu-240  | 7.26E-05                            |
| Pu-241  | 1.07E-03                            |
| Pu-242  | 4.38E-09                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W535 Stream Name 2345Z TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W535** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 19.9   | 0.0   | 19.9  |
| Standard Waste Box   | 3.8    | 0.0   | 3.8   |
| As-Generated Total   | 23.7   | 0.0   | 23.7  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 19.9   | 0.0   | 19.9  |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 23.7   | 0.0   | 23.7  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.02                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 56.21                         |
| Other Inorganic Materials      | 4.37                          |
| Cellulosics                    | 31.12                         |
| Rubber                         | 17.59                         |
| Plastics                       | 33.98                         |
| Solidified, Inorganic Matrix   | 13.28                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.18                          |
| Packaging Material, Steel      | 134.68                        |
| Packaging Material, Plastic    | 31.27                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.95E+00                            |
| Pu-238  | 7.52E-01                            |
| Pu-239  | 3.68E+00                            |
| Pu-240  | 1.13E+00                            |
| Pu-241  | 2.89E+01                            |
| Pu-242  | 2.86E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W536 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W536** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 6.5    | 0.0   | 6.5   |
|                      | As-Generated Total | 6.5    | 0.0   | 6.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 6.5    | 0.0   | 6.5   |
|                    | Final Form Total | 6.5    | 0.0   | 6.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 28.68                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.85                         |
| Other Inorganic Materials      | 0.35                          |
| Cellulosics                    | 24.58                         |
| Rubber                         | 59.72                         |
| Plastics                       | 63.08                         |
| Solidified, Inorganic Matrix   | 34.93                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 17.20                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.28E-01                            |
| Pu-238  | 3.70E-02                            |
| Pu-239  | 4.66E-01                            |
| Pu-240  | 1.06E-01                            |
| Pu-241  | 2.40E+00                            |
| Pu-242  | 7.44E-06                            |
| U-234   | 4.91E-07                            |
| U-235   | 2.15E-07                            |
| U-236   | 2.01E-08                            |
| U-238   | 1.40E-09                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W537 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ org,met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W537** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 5.0    | 0.0   | 5.0   |
| •                    |                    |        |       |       |
|                      | As-Generated Total | 5.0    | 0.0   | 5.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 5.0    | 0.0   | 5.0   |
|                    | Final Form Total | 5.0    | 0.0   | 5.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2.90                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.14                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 15.25                         |
| Solidified, Inorganic Matrix   | 10.36                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.28E+00                            |
| Pu-238  | 1.08E+00                            |
| Pu-239  | 3.70E+01                            |
| Pu-240  | 8.14E+00                            |
| Pu-241  | 8.71E+01                            |
| Pu-242  | 6.27E-04                            |
| U-234   | 5.39E-06                            |
| U-235   | 1.86E-06                            |
| U-236   | 2.21E-07                            |
| U-238   | 1.54E-08                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W538 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ org

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.7    | 0.0   | 1.7   |
|                      | As-Generated Total | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 36.15                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 12.56                         |
| Rubber                         | 25.57                         |
| Plastics                       | 69.04                         |
| Solidified, Inorganic Matrix   | 18.71                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 27.86                         |
| Soils                          | 7.08                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.25E-05                            |
| Pu-238  | 1.37E-05                            |
| Pu-239  | 5.15E-04                            |
| Pu-240  | 1.15E-04                            |
| Pu-241  | 1.70E-03                            |
| Pu-242  | 6.94E-09                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W539 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ met,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |            |        |       |       |
|----------------------|------------|--------|-------|-------|
| ContainerType        |            | Stored | Proj. | Total |
| 55 Gallon Drum       |            | 0.4    | 0.0   | 0.4   |
| As-Goner             | ated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 80.14                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 29.45                         |
| Other Inorganic Materials      | 0.12                          |
| Cellulosics                    | 7.55                          |
| Rubber                         | 99.81                         |
| Plastics                       | 38.12                         |
| Solidified, Inorganic Matrix   | 37.62                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 59.55                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.64E-02                            |  |  |
| Pu-238  | 6.16E-03                            |  |  |
| Pu-239  | 2.28E-01                            |  |  |
| Pu-240  | 5.10E-02                            |  |  |
| Pu-241  | 8.29E-01                            |  |  |
| Pu-242  | 3.07E-06                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W540 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 55 Gallon Drum       |                           | 30.9   | 0.0   | 30.9  |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 30.9   | 0.0   | 30.9  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 30.9   | 0.0   | 30.9  |
|                    | Final Form Total | 30.9   | 0.0   | 30.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 30.39                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 52.49                         |
| Other Inorganic Materials      | 5.90                          |
| Cellulosics                    | 26.90                         |
| Rubber                         | 47.34                         |
| Plastics                       | 52.58                         |
| Solidified, Inorganic Matrix   | 14.87                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 19.63                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 8.18E-01                            |  |  |  |
| Pu-238  | 3.69E-01                            |  |  |  |
| Pu-239  | 1.11E+00                            |  |  |  |
| Pu-240  | 3.86E-01                            |  |  |  |
| Pu-241  | 1.08E+01                            |  |  |  |
| Pu-242  | 1.83E-04                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

### Waste Stream ID: RL-W541 Appendix J

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W541 | Stream Name | 2345Z M | TRU CH heterogeneous S5440 Mixed RCRA w/ mo | et,Hg,cor         |       |               | Inventory Date         | 9/30/2 | 002 |
|----------|---------|-------------|---------|---|-------------------|-------|---------------|------------------------|--------|-----|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris       | Waste Matrix Code | S5440 | Activity Cond | centrations Decayed to | CY 20  | 002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |  |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.41                          |
| Other Inorganic Materials      | 0.03                          |
| Cellulosics                    | 13.05                         |
| Rubber                         | 105.10                        |
| Plastics                       | 24.00                         |
| Solidified, Inorganic Matrix   | 113.71                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 38.52                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Tillal Tollii Raalollaollacs |                                     |  |  |  |
|------------------------------|-------------------------------------|--|--|--|
| Isotope                      | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                       | 3.30E-02                            |  |  |  |
| Pu-238                       | 1.18E-02                            |  |  |  |
| Pu-239                       | 4.40E-01                            |  |  |  |
| Pu-240                       | 9.85E-02                            |  |  |  |
| Pu-241                       | 1.56E+00                            |  |  |  |
| Pu-242                       | 5.93E-06                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W542 | Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ met,Hg |    |                                       |                         |               | Inventory Date 9/30/2002       |
|----------|---------|--|----|---------------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling   | CH | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440 | Activity Cond | centrations Decayed to CY 2002 |
|          |         |  |    |                                       |                         |               |                                |

#### **Final Waste Form Descriptors**

|           | •                 |          |  |
|-----------|-------------------|----------|--|
| Category: | Defense TRU Waste |          | Facility/Equipment Operation and Maintenance |
|           |                   | <u>.</u> | Waste  |

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 4.0    | 0.0   | 4.0   |
|                      | As-Generated Total | 4.0    | 0.0   | 4 0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.0    | 0.0   | 4.0   |
|                    | Final Form Total | 4.0    | 0.0   | 4.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 42.74                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 19.40                         |
| Other Inorganic Materials      | 5.55                          |
| Cellulosics                    | 25.27                         |
| Rubber                         | 74.68                         |
| Plastics                       | 36.81                         |
| Solidified, Inorganic Matrix   | 53.93                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 28.71                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| adionaciaes                         |
|-------------------------------------|
| Typical<br>Concentration<br>(Ci/m3) |
| 2.89E-01                            |
| 1.39E-01                            |
| 1.76E+00                            |
| 4.09E-01                            |
| 1.01E+01                            |
| 3.32E-05                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

# **Management Comments**

HQ ID RL-W543 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/cor

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| Standard Waste Box   | 3.8    | 0.0   | 3.8   |
| As-Generated Tota    | 4.0    | 0.0   | 4.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 4.0    | 0.0   | 4.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 169.57                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 5.86                          |
| Rubber                         | 1.25                          |
| Plastics                       | 22.19                         |
| Solidified, Inorganic Matrix   | 2.74                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.49                          |
| Packaging Material, Steel      | 152.80                        |
| Packaging Material, Plastic    | 3.07                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.31E-04                            |
| Pu-238  | 2.70E-04                            |
| Pu-239  | 1.01E-02                            |
| Pu-240  | 2.27E-03                            |
| Pu-241  | 3.36E-02                            |
| Pu-242  | 1.37E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W544 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W544 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA w/ ign,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |  |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 142.86                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 11.90                         |
| Rubber                         | 36.19                         |
| Plastics                       | 35.71                         |
| Solidified, Inorganic Matrix   | 14.76                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| man romm radiomaci |                                     |  |  |
|--------------------|-------------------------------------|--|--|
| Isotope            | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241             | 4.16E-01                            |  |  |
| Pu-238             | 2.10E-01                            |  |  |
| Pu-239             | 2.20E+00                            |  |  |
| Pu-240             | 5.51E-01                            |  |  |
| Pu-241             | 1.28E+01                            |  |  |
| Pu-242             | 4.60E-05                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W545 | Stream Name 2345Z MT | RU CH heterogeneous S5440 Mixed RCRA/TSCA | -PCB w/Hg               | Inventory Date 9/30/2002                   |
|----------|---------|----------------------|---|-------------------------|--|
| Local ID | N/A     | Handling CH          | Final Waste Form Heterogeneous Debris     | Waste Matrix Code S5440 | Activity Concentrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| Standard Waste Box   |                   | 3.8    | 0.0   | 3.8   |
| Α                    | s-Generated Total | 3.8    | 0.0   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 3.8    | 0.0   | 3.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 190.53                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.42                         |
| Other Inorganic Materials      | 2.37                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 32.50                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.28E-03                            |
| Pu-238  | 1.71E-03                            |
| Pu-239  | 6.40E-02                            |
| Pu-240  | 1.43E-02                            |
| Pu-241  | 2.12E-01                            |
| Pu-242  | 8.63E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W546 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed RCRA/TSCA-PCB w/ ign Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                   |      |       |       |
|----------------------|-------------------|------|-------|-------|
| ContainerType        | St                | ored | Proj. | Total |
| 55 Gallon Drum       |                   | 0.8  | 0.0   | 0.8   |
| Δ                    | s-Generated Total | 0.8  | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 23.40                         |
| Rubber                         | 5.10                          |
| Plastics                       | 81.00                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 38.40                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 1.05E-03                            |
| 3.38E-04                            |
| 1.27E-02                            |
| 2.84E-03                            |
| 4.20E-02                            |
| 1.71E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W547 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 2.9    | 0.0   | 2.9   |
| Standard Waste Box   | 53.2   | 0.0   | 53.2  |
| As-Generated Total   | 56.1   | 0.0   | 56.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.9    | 0.0   | 2.9   |
| Standard Waste Box |                  | 53.2   | 0.0   | 53.2  |
|                    | Final Form Total | 56.1   | 0.0   | 56 1  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 67.79                         |
| Other Inorganic Materials      | 0.43                          |
| Cellulosics                    | 70.65                         |
| Rubber                         | 0.00                          |
| Plastics                       | 34.19                         |
| Solidified, Inorganic Matrix   | 0.30                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.19                          |
| Soils                          | 6.88                          |
| Packaging Material, Steel      | 152.80                        |
| Packaging Material, Plastic    | 3.07                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.00E-07                            |
| Pu-238  | 1.29E-07                            |
| Pu-239  | 4.85E-06                            |
| Pu-240  | 1.09E-06                            |
| Pu-241  | 1.60E-05                            |
| Pu-242  | 6.54E-11                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W548 Stream Name 2345Z MTRU CH heterogeneous S5440 Mixed TSCA-PCB Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |  |
|--------------------------------|-------------------------------|--|
| Iron-Base Metal/Alloys         | 0.00                          |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |
| Other Metal/Alloys             | 0.00                          |  |
| Other Inorganic Materials      | 0.00                          |  |
| Cellulosics                    | 9.52                          |  |
| Rubber                         | 2.38                          |  |
| Plastics                       | 50.24                         |  |
| Solidified, Inorganic Matrix   | 17.38                         |  |
| Cement (Solidified)            | 0.00                          |  |
| Vitrified                      | 0.00                          |  |
| Solidified, Organic Matrix     | 8.57                          |  |
| Soils                          | 4.76                          |  |
| Packaging Material, Steel      | 131.00                        |  |
| Packaging Material, Plastic    | 37.00                         |  |
| Packaging Material, Lead       | 0.00                          |  |
| Packaging Material, Steel Plug | 0.00                          |  |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.40E-05                            |
| Pu-238  | 1.50E-05                            |
| Pu-239  | 5.60E-04                            |
| Pu-240  | 1.25E-04                            |
| Pu-241  | 1.92E-03                            |
| Pu-242  | 7.55E-09                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W549 Stream Name 2345Z TRU CH heterogeneous S5900 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 2.1    | 0.0   | 2.1   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 4.0    | 0.0   | 4.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.1    | 0.0   | 2.1   |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 4.0    | 0.0   | 4.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 124.30                        |
| Other Inorganic Materials      | 24.62                         |
| Cellulosics                    | 11.66                         |
| Rubber                         | 2.61                          |
| Plastics                       | 36.80                         |
| Solidified, Inorganic Matrix   | 14.36                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 141.93                        |
| Packaging Material, Plastic    | 19.99                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.42E+00                            |
| Pu-238  | 6.33E-01                            |
| Pu-239  | 3.02E+00                            |
| Pu-240  | 9.05E-01                            |
| Pu-241  | 2.55E+01                            |
| Pu-242  | 2.57E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W550 | Stream Name | 2345Z M | TRU CH heterogeneous S5900 Mixed RCRA w/ org | g,met,Hg               |                 | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|--|------------------------|-----------------|------------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris        | Waste Matrix Code S590 | 0 Activity Cond | centrations Decayed to | CY 2002   |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                   |     |       |       |
|----------------------|-------------------|-----|-------|-------|
| ContainerType        | Stor              | ed  | Proj. | Total |
| 55 Gallon Drum       |                   | 4.4 | 0.0   | 4.4   |
|                      | s-Generated Total | 4 4 | 0.0   | 4 4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.4    | 0.0   | 4.4   |
|                    | Final Form Total | 4.4    | 0.0   | 4.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 3.09                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.20                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 8.76                          |
| Solidified, Inorganic Matrix   | 11.03                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 6.43E+00                            |  |  |
| Pu-238  | 1.09E+00                            |  |  |
| Pu-239  | 3.72E+01                            |  |  |
| Pu-240  | 8.21E+00                            |  |  |
| Pu-241  | 8.73E+01                            |  |  |
| Pu-242  | 6.35E-04                            |  |  |
| U-234   | 4.36E-06                            |  |  |
| U-235   | 1.51E-06                            |  |  |
| U-236   | 1.79E-07                            |  |  |
| U-238   | 1.25E-08                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W551 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W551 Stream Name 2345Z MTRU CH heterogeneous S5900 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 8.0    | 0.0   | 8.0   |
| Standard Waste Box   | 7.6    | 0.0   | 7.6   |
| As-Generated Total   | 15.6   | 0.0   | 15.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 8.0    | 0.0   | 8.0   |
| Standard Waste Box |                  | 7.6    | 0.0   | 7.6   |
|                    | Final Form Total | 15.6   | 0.0   | 15.6  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 46.05                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 67.09                         |
| Other Inorganic Materials      | 0.98                          |
| Cellulosics                    | 12.05                         |
| Rubber                         | 7.45                          |
| Plastics                       | 18.47                         |
| Solidified, Inorganic Matrix   | 8.82                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 7.04                          |
| Packaging Material, Steel      | 142.22                        |
| Packaging Material, Plastic    | 19.54                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.85E+00                            |
| Pu-238  | 4.55E-01                            |
| Pu-239  | 1.19E+01                            |
| Pu-240  | 3.03E+00                            |
| Pu-241  | 2.62E+01                            |
| Pu-242  | 2.87E-04                            |
| U-235   | 1.37E-07                            |
| U-238   | 2.76E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W552 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W552 Stream Name 2345Z MTRU CH heterogeneous S5900 Mixed RCRA w/ met,Hg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 22.62                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.37                         |
| Other Inorganic Materials      | 4.54                          |
| Cellulosics                    | 6.88                          |
| Rubber                         | 40.75                         |
| Plastics                       | 31.77                         |
| Solidified, Inorganic Matrix   | 42.81                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 40.55                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.32E-02                            |  |  |
| Pu-238  | 4.67E-03                            |  |  |
| Pu-239  | 1.73E-01                            |  |  |
| Pu-240  | 3.88E-02                            |  |  |
| Pu-241  | 6.08E-01                            |  |  |
| Pu-242  | 2.34E-06                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W553 | Stream Name | 2345Z M | TRU CH heterogeneous S5900 Mixed RCRA w/ igr | n,cor                  |                  | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|--|------------------------|------------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris        | Waste Matrix Code S590 | OO Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 71.67                         |
| Other Inorganic Materials      | 2.62                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.48                          |
| Plastics                       | 17.38                         |
| Solidified, Inorganic Matrix   | 31.67                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.64E-04                            |
| Cs-137  | 2.68E-01                            |
| Pu-238  | 8.81E-04                            |
| Pu-239  | 3.09E-02                            |
| Pu-240  | 6.92E-03                            |
| Pu-241  | 1.54E-01                            |
| Pu-242  | 4.17E-07                            |
| Sr-90   | 2.46E-01                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W554 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W554 Stream Name 2345Z MTRU CH heterogeneous S5900 Mixed RCRA/TSCA-PCB w/Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 9.5    | 0.0   | 9.5   |
|                      | As-Generated Total | 9.5    | 0.0   | 9.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 9.5    | 0.0   | 9.5   |
|                    | Final Form Total | 9.5    | 0.0   | 9.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 119.79                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 159.16                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 2.11                          |
| Rubber                         | 0.00                          |
| Plastics                       | 18.21                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.79E-03                            |
| Pu-238  | 5.78E-04                            |
| Pu-239  | 2.17E-02                            |
| Pu-240  | 4.86E-03                            |
| Pu-241  | 7.17E-02                            |
| Pu-242  | 2.93E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W555 Stream Name 2345Z MTRU CH heterogeneous S5900 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W555** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |           |       |       |
|----------------------|-----------|-------|-------|
| ContainerType        | Stored    | Proj. | Total |
| 55 Gallon Drum       | 0.6       | 0.0   | 0.6   |
| Standard Waste Box   | 11.4      | 0.0   | 11.4  |
|                      |           |       |       |
| As-Generated To      | otal 12.0 | 0.0   | 12.0  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
| Standard Waste Box |                  | 11.4   | 0.0   | 11.4  |
|                    | Final Form Total | 12.0   | 0.0   | 12.0  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 34.92                         |
| Other Inorganic Materials      | 7.50                          |
| Cellulosics                    | 7.11                          |
| Rubber                         | 0.19                          |
| Plastics                       | 25.23                         |
| Solidified, Inorganic Matrix   | 5.80                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 5.90                          |
| Packaging Material, Steel      | 152.80                        |
| Packaging Material, Plastic    | 3.07                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 6.50E-04                            |
| 2.10E-04                            |
| 7.89E-03                            |
| 1.77E-03                            |
| 2.61E-02                            |
| 1.06E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

| HQ ID    | RL-W563 | Stream Name | 2345Z N | ITRU CH solidified inorganic X6200 Mixed RCRA w | / met,cor               |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|---|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Solidified Inorganics          | Waste Matrix Code X6200 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 31.43                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 32.86                         |
| Solidified, Inorganic Matrix   | 94.35                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.72E-01                            |
| Pu-238  | 3.01E-01                            |
| Pu-239  | 3.75E+00                            |
| Pu-240  | 8.32E-01                            |
| Pu-241  | 2.04E+01                            |
| Pu-242  | 4.97E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W564 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W564 Stream Name 2345Z MTRU CH solidified inorganic X6200 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code X6200 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.3    | 0.0   | 1.3   |
|                      | As-Generated Total | 1.3    | 0.0   | 1.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.75                          |
| Other Inorganic Materials      | 2.38                          |
| Cellulosics                    | 94.92                         |
| Rubber                         | 0.00                          |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 40.29                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 41.67                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.82E-02                            |
| Pu-238  | 3.33E-02                            |
| Pu-239  | 4.04E-01                            |
| Pu-240  | 8.98E-02                            |
| Pu-241  | 2.61E+00                            |
| Pu-242  | 5.33E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W565 Stream Name 2345Z MTRU CH Pb/Cd metal X7219 Mixed RCRA w/ met,cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code X7219 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W565** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 55 Gallon Drum       |                           | 0.2    | 0.0   | 0.2   |
| •                    |                           | -      |       |       |
|                      | <b>As-Generated Total</b> | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 589.05                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.67                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 20.00                         |
| Rubber                         | 106.67                        |
| Plastics                       | 89.05                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 37.62                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.23E-02                            |
| Pu-238  | 1.12E-02                            |
| Pu-239  | 4.18E-01                            |
| Pu-240  | 9.37E-02                            |
| Pu-241  | 1.45E+00                            |
| Pu-242  | 5.65E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W566 Stream Name 2345Z MTRU CH Pb/Cd metal X7219 Mixed RCRA w/ met

Local ID N/A Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code X7219 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.3    | 0.0   | 2.3   |
|                      | As-Generated Total | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.3    | 0.0   | 2.3   |
|                    | Final Form Total | 2.3    | 0.0   | 2.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 217.20                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 9.24                          |
| Other Inorganic Materials      | 1.35                          |
| Cellulosics                    | 1.69                          |
| Rubber                         | 64.82                         |
| Plastics                       | 21.01                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 14.56                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 4.52E-02                            |  |  |  |
| Pu-238  | 1.50E-02                            |  |  |  |
| Pu-239  | 5.60E-01                            |  |  |  |
| Pu-240  | 1.25E-01                            |  |  |  |
| Pu-241  | 1.88E+00                            |  |  |  |
| Pu-242  | 7.55E-06                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

Stream Name 2345Z TRU CH solidified inorganic S3119 Non-mixed HQ ID RL-W567 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002 Local ID Handling

**Final Waste Form Descriptors** 

**RL-W567** 

Category: Defense TRU Waste **Source:** Facility/Equipment Operation and Maintenance

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

0.0 Final Form Total 0.2

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 35.09                         |
| Solidified, Inorganic Matrix   | 75.48                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Tillal Tollil Radionaoliaoo |                                     |  |  |
|-----------------------------|-------------------------------------|--|--|
| Isotope                     | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                      | 2.36E+01                            |  |  |
| Pu-238                      | 4.25E+00                            |  |  |
| Pu-239                      | 1.91E-01                            |  |  |
| Pu-240                      | 1.55E-01                            |  |  |
| Pu-241                      | 1.77E+03                            |  |  |
| Pu-242                      | 1.60E-07                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W568 Stream Name 2345Z TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W568** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 3.7    | 0.0   | 3.7   |
| As-Generated Total   | 3.7    | 0.0   | 3.7   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 3.7    | 0.0   | 3.7   |
|                    |        |       |       |

**Final Form Total** 3.7 0.0 3.7

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 23.96                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 453.79                        |
| Other Inorganic Materials      | 5.21                          |
| Cellulosics                    | 6.99                          |
| Rubber                         | 0.77                          |
| Plastics                       | 32.70                         |
| Solidified, Inorganic Matrix   | 4.28                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 14.85                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 2.04E+01                            |
| 4.98E+00                            |
| 5.03E-01                            |
| 4.01E-01                            |
| 2.03E+03                            |
| 3.25E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W569 Stream Name 2345Z TRU CH inorganic non-metal S5121 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5121 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W569** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 0.2    | 0.0   | 0.2   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 2.1    | 0.0   | 21    |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 2.1    | 0.0   | 21    |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 39.08                         |
| Cellulosics                    | 0.48                          |
| Rubber                         | 0.00                          |
| Plastics                       | 2.38                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.90                          |
| Packaging Material, Steel      | 151.72                        |
| Packaging Material, Plastic    | 4.75                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.69E-02                            |
| Pu-238  | 6.65E-03                            |
| Pu-239  | 2.99E-04                            |
| Pu-240  | 2.43E-05                            |
| Pu-241  | 2.78E+00                            |
| Pu-242  | 2.43E-10                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

HQ ID RL-W570 Stream Name 2345Z TRU CH inorganic non-metal S5122 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form | Inorganic Non-Metal | Waste Matrix Code | S5122 | Activity Concentrations Decayed to CY | 2002

#### **Final Waste Form Descriptors**

**RL-W570** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 232.62                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 25.44                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 19.19                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.91E-02                            |
| Cs-137  | 2.14E-02                            |
| Pu-238  | 5.89E-03                            |
| Pu-239  | 2.24E-01                            |
| Pu-240  | 5.01E-02                            |
| Pu-241  | 6.89E-01                            |
| Pu-242  | 3.02E-06                            |
| Sr-90   | 1.94E-02                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W571 Stream Name 2345Z TRU CH combustible S5319 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 12.5   | 0.0   | 12.5  |
|                      | As Computed Total  | 12.5   | 0.0   | 12.5  |
|                      | As-Generated Total | 12.5   | 0.0   | 12.5  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 12.5   | 0.0   | 12.5  |
|                    | Final Form Total | 12.5   | 0.0   | 12.5  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.37                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 13.37                         |
| Other Inorganic Materials      | 3.72                          |
| Cellulosics                    | 8.06                          |
| Rubber                         | 26.22                         |
| Plastics                       | 88.11                         |
| Solidified, Inorganic Matrix   | 0.04                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 11.71                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.38E+00                            |
| Pu-238  | 6.67E-01                            |
| Pu-239  | 6.06E-01                            |
| Pu-240  | 3.04E-01                            |
| Pu-241  | 9.32E+01                            |
| Pu-242  | 3.66E-08                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

#### **Management Comments**

# Waste Stream ID: RL-W572 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W572 Stream Name 2345Z TRU CH combustible S5330 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5330 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 55-Gallon Drum       |                           | 2.3    | 0.0   | 2.3   |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 2.3    | 0.0   | 2.3   |
|                    |        | 1     |       |

Final Form Total 2.3 0.0 2.3

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.36                          |
| Other Inorganic Materials      | 0.22                          |
| Cellulosics                    | 92.55                         |
| Rubber                         | 5.27                          |
| Plastics                       | 9.97                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 14.56                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 6.03E-03                            |
| 1.09E-03                            |
| 1.78E-03                            |
| 3.98E-05                            |
| 4.53E-01                            |
| 3.97E-11                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W573 Stream Name 2345Z TRU RH combustible S5390 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 15.0   | 0.0   | 15.0  |
|                      | As-Generated Total | 15.0   | 0.0   | 15.0  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 15.0   | 0.0   | 15.0  |
|                    | Final Form Total | 15.0   | 0.0   | 15.0  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 17.63                         |
| Other Inorganic Materials      | 2.46                          |
| Cellulosics                    | 60.54                         |
| Rubber                         | 19.07                         |
| Plastics                       | 39.36                         |
| Solidified, Inorganic Matrix   | 0.06                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 23.56                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.23E+01                            |
| Pu-238  | 2.13E+00                            |
| Pu-239  | 1.49E-01                            |
| Pu-240  | 1.12E-01                            |
| Pu-241  | 8.80E+02                            |
| Pu-242  | 1.01E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W574 Stream Name 2345Z TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 23.3   | 0.0   | 23.3  |
| Standard Waste Box   | 58.6   | 0.0   | 58.6  |
| As-Generated Total   | 81.9   | 0.0   | 81.9  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 23.3   | 0.0   | 23.3  |
| Standard Waste Box |                  | 58.6   | 0.0   | 58.6  |
|                    | Final Form Total | 81.9   | 0.0   | 81.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.05                          |
| Aluminum-Base Metal/Alloys     | 0.01                          |
| Other Metal/Alloys             | 98.95                         |
| Other Inorganic Materials      | 9.58                          |
| Cellulosics                    | 9.73                          |
| Rubber                         | 3.73                          |
| Plastics                       | 29.12                         |
| Solidified, Inorganic Matrix   | 0.80                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 10.04                         |
| Packaging Material, Steel      | 147.46                        |
| Packaging Material, Plastic    | 11.38                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 9.30E+00                            |  |  |
| Pu-238  | 1.68E+00                            |  |  |
| Pu-239  | 1.04E-01                            |  |  |
| Pu-240  | 7.60E-02                            |  |  |
| Pu-241  | 7.03E+02                            |  |  |
| Pu-242  | 7.80E-08                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W575 Stream Name 2345Z TRU CH heterogeneous S5440 Non-mixed

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 199.1  | 0.0   | 199.1 |
| Standard Waste Box   | 85.1   | 0.0   | 85.1  |
| As-Generated Total   | 284.1  | 0.0   | 284.1 |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 199.1  | 0.0   | 199.1 |
| Standard Waste Box |                  | 85.1   | 0.0   | 85.1  |
|                    | Final Form Total | 284.1  | 0.0   | 284.1 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.40                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 45.71                         |
| Other Inorganic Materials      | 8.03                          |
| Cellulosics                    | 34.41                         |
| Rubber                         | 13.99                         |
| Plastics                       | 49.96                         |
| Solidified, Inorganic Matrix   | 0.79                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 23.40                         |
| Packaging Material, Steel      | 137.89                        |
| Packaging Material, Plastic    | 26.28                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

**Waste Material Parameters** 

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.92E+01                            |
| Pu-238  | 3.27E+00                            |
| Pu-239  | 2.87E-01                            |
| Pu-240  | 1.75E-01                            |
| Pu-241  | 1.27E+03                            |
| Pu-242  | 3.92E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W576 Stream Name 2345Z TRU CH heterogeneous S5900 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W576** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 8.9    | 0.0   | 8.9   |
| Standard Waste Box   | 32.1   | 0.0   | 32.1  |
| As-Generated Total   | 41.1   | 0.0   | 41.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 8.9    | 0.0   | 8.9   |
| Standard Waste Box |                  | 32.1   | 0.0   | 32.1  |
|                    | Final Form Total | 41.1   | 0.0   | 41.1  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 55.57                         |
| Other Inorganic Materials      | 10.80                         |
| Cellulosics                    | 18.55                         |
| Rubber                         | 3.51                          |
| Plastics                       | 26.16                         |
| Solidified, Inorganic Matrix   | 5.87                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.14                          |
| Soils                          | 13.65                         |
| Packaging Material, Steel      | 148.99                        |
| Packaging Material, Plastic    | 9.00                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.67E+00                            |
| Pu-238  | 1.58E+00                            |
| Pu-239  | 1.01E-01                            |
| Pu-240  | 7.30E-02                            |
| Pu-241  | 6.60E+02                            |
| Pu-242  | 5.98E-08                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the PLUTONIUM FABRICATION FACILITY.

### **Management Comments**

HQ ID RL-W579 Stream Name 2714U MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met,Hg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.05                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 291.07                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 54.00                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 236.31                        |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 2.52E-01                            |
| 4.06E-03                            |
| 4.94E-02                            |
| 1.11E-02                            |
| 2.28E-01                            |
| 6.65E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WAREHOUSE.

#### **Management Comments**

# Waste Stream ID: RL-W580 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W580 Stream Name 2718E MTRU CH filter S5410 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| As-Generated Total   | 2.1    | 0.0   | 2.1   |

| Final Form Volumes |                |        |       |       |
|--------------------|----------------|--------|-------|-------|
| ContainerType      |                | Stored | Proj. | Total |
| 55 Gallon Drum     |                | 0.2    | 0.0   | 0.2   |
| Standard Waste Box |                | 1.9    | 0.0   | 1.9   |
| Fi                 | nal Form Total | 2.1    | 0.0   | 2.1   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 117.25                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 9.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 151.71                        |
| Packaging Material, Plastic    | 4.76                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 1.42E-04                            |
| Pu-239  | 7.88E-02                            |
| Pu-240  | 1.29E-02                            |
| Sr-90   | 1.30E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the CRITICAL MASS STORAGE.

#### **Management Comments**

HQ ID RL-W581 Stream Name 2718E TRU CH heterogeneous S5440 Non-mixed

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 7.21                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 48.07                         |
| Rubber                         | 64.91                         |
| Plastics                       | 50.49                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.79E+00                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the CRITICAL MASS STORAGE.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W582 Stream Name 308 MTRU CH solidified inorganic S3119 Mixed RCRA w/ met,Hg,cor |          |    |  |                   | Inventory Date | 9/30/2002     |                        |         |
|----------|---|----------|----|--|-------------------|----------------|---------------|------------------------|---------|
| Local ID | N/A   | Handling | CH | Final Waste Form Solidified Inorganics | Waste Matrix Code | S3119          | Activity Cond | centrations Decayed to | CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.95                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.95                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 4.29                          |
| Plastics                       | 10.48                         |
| Solidified, Inorganic Matrix   | 88.10                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.36E-02                            |
| Cs-137  | 4.88E-03                            |
| Pu-238  | 6.92E-03                            |
| Pu-239  | 2.53E-02                            |
| Pu-240  | 1.32E-02                            |
| Pu-241  | 7.36E-02                            |
| Pu-242  | 3.85E-07                            |
| Sr-90   | 4.45E-03                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

#### **Management Comments**

HQ ID RL-W583 Stream Name 308 MTRU CH combustible S5319 Mixed RCRA w/ met,ign Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.00                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 18.00                         |
| Rubber                         | 12.00                         |
| Plastics                       | 100.80                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.31E-02                            |
| Pu-238  | 3.75E-03                            |
| Pu-239  | 1.43E-01                            |
| Pu-240  | 3.20E-02                            |
| Pu-241  | 4.29E-01                            |
| Pu-242  | 1.93E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RL-W584<br>N/A   | Stream Nam<br>Handlir |         | Final Waste Form Heterogeneous Debr          | Waste Matrix Code S5420     | Activity C |                | ory Date 9/30/2002 cayed to CY 2002 |
|-------------------|------------------|-----------------------|---------|--|-----------------------------|------------|----------------|-------------------------------------|
| 2000112           |                  | rianam                | 9       |  | <br>Waste Matrix Gode 33:23 | Addivity o | oncommunons be | oayea to 01                         |
| Final Wa          | ste Form Descrip | tors                  |         |  | Waste Material Parameters   |            | Final Form     | Radionuclides                       |
| Categ             | ory: Defense TF  | RU Waste              | Source: | Facility/Equipment Operation and Maintenance |                             | Average    |                | Typical                             |

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

Waste

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 296.24                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 19.05                         |
| Rubber                         | 0.00                          |
| Plastics                       | 24.24                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.81E-01                            |
| Cs-137  | 9.77E-04                            |
| Pu-238  | 2.46E-01                            |
| Pu-239  | 8.35E-01                            |
| Pu-240  | 4.10E-01                            |
| Pu-241  | 2.16E+00                            |
| Pu-242  | 1.20E-05                            |
| Sr-90   | 8.91E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

#### **Management Comments**

HQ ID RL-W585 Stream Name 308 MTRU CH heterogeneous S5420 Mixed RCRA w/ ign

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W585** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 143.57                        |
| Other Inorganic Materials      | 1.19                          |
| Cellulosics                    | 9.52                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.14                         |
| Solidified, Inorganic Matrix   | 1.19                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.18E-01                            |
| Cs-137  | 7.72E-06                            |
| Pu-238  | 6.54E-01                            |
| Pu-239  | 2.44E+00                            |
| Pu-240  | 1.25E+00                            |
| Pu-241  | 3.28E+01                            |
| Pu-242  | 3.64E-04                            |
| Sr-90   | 7.04E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W586 | Stream Name | 308 TRU | U CH heterogeneous S5440 Non-mixed    |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|---------------------------------------|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440 | Activity Cond | centrations Decayed to CY 2002 |
|          |         |             |         |                                       |                         |               |                                |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 163.20                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 90.40                         |
| Cellulosics                    | 18.00                         |
| Rubber                         | 18.00                         |
| Plastics                       | 43.20                         |
| Solidified, Inorganic Matrix   | 3.84                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.08E-04                            |
| Pu-238  | 5.92E-05                            |
| Pu-239  | 2.26E-03                            |
| Pu-240  | 5.06E-04                            |
| Pu-241  | 6.78E-03                            |
| Pu-242  | 3.05E-08                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

#### **Management Comments**

# RL-W587 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W587 Stream Name 308 MTRU CH heterogeneous S5440 Mixed RCRA w/ met

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                           |        |       |       |
|----------------------|---------------------------|--------|-------|-------|
| ContainerType        |                           | Stored | Proj. | Total |
| 55 Gallon Drum       |                           | 0.4    | 0.0   | 0.4   |
| •                    |                           |        |       |       |
|                      | <b>As-Generated Total</b> | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 38.10                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 37.10                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 27.52                         |
| Rubber                         | 40.67                         |
| Plastics                       | 62.02                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| 2.10E-03                            |  |  |  |  |  |
| 6.38E-04                            |  |  |  |  |  |
| 2.41E-02                            |  |  |  |  |  |
| 5.40E-03                            |  |  |  |  |  |
| 7.60E-02                            |  |  |  |  |  |
| 3.25E-07                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W588 | Stream Name | 308 MTR | U CH heterogeneous S5440 Mixed RCRA w/ met,Hg |                   |       |               | Inventory Date       | 9/30/2002 |
|----------|---------|-------------|---------|---|-------------------|-------|---------------|----------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris         | Waste Matrix Code | S5440 | Activity Cond | entrations Decayed t | o CY 2002 |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.05                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 37.76                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 28.57                         |
| Rubber                         | 80.95                         |
| Plastics                       | 38.38                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.27E-01                            |
| Cs-137  | 9.77E-04                            |
| Pu-238  | 2.07E-01                            |
| Pu-239  | 7.03E-01                            |
| Pu-240  | 3.45E-01                            |
| Pu-241  | 1.81E+00                            |
| Pu-242  | 1.01E-05                            |
| Sr-90   | 8.91E-04                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W589 | Stream Name | 308 MTF | RU CH Pb/Cd metal X7219 | Mixed RCRA w/ met  |                     |                   | Inventory Date 9/30/2002       |
|----------|---------|-------------|---------|-------------------------|--------------------|---------------------|-------------------|--------------------------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form        | Lead/Cadmium Metal | Waste Matrix Code X | 7219 Activity Con | centrations Decayed to CY 2002 |

### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1369.05                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 87.14                         |
| Rubber                         | 0.00                          |
| Plastics                       | 90.95                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 1.41E-04                            |
| Sr-90   | 1.29E-04                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W590 | Stream Name 300 11 | RU CH solidified organics L2290 Non-mixed |                         |               | Inventory Date 9/30/      | 2002 |
|---------------|--------------------|---|-------------------------|---------------|---------------------------|------|
| Local ID N/A  | <b>Handling</b> CH | Final Waste Form Solidified Organics      | Waste Matrix Code L2290 | Activity Cond | centrations Decayed to CY | 2002 |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |               |     |       |       |
|----------------------|---------------|-----|-------|-------|
| ContainerType        | Stor          | ed  | Proj. | Total |
| 55-Gallon Drum       |               | 0.6 | 0.0   | 0.6   |
| As-Gel               | nerated Total | 0.6 | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 129.38                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 100.32                        |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.26E+00                            |  |  |
| Pu-238  | 1.49E+00                            |  |  |
| Pu-239  | 1.82E-02                            |  |  |
| Pu-240  | 3.27E-02                            |  |  |
| Pu-241  | 8.01E+01                            |  |  |
| Pu-242  | 1.66E-08                            |  |  |
|         |                                     |  |  |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W591 | Stream Name | 308 TRU | CH solidified inorganic S3119 Non-mixed |                         |               | Inventory Date         | 9/30/2002 | 1 |
|----------|---------|-------------|---------|---|-------------------------|---------------|------------------------|-----------|---|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Solidified Inorganics  | Waste Matrix Code S3119 | Activity Cond | centrations Decayed to | CY 2002   | J |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    |                  |        |       |       |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 346.15                        |
| Other Inorganic Materials      | 12.02                         |
| Cellulosics                    | 16.82                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 110.57                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i oi ili itaaloilaollaos |                                     |  |  |
|----------------------------------|-------------------------------------|--|--|
| Isotope                          | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                           | 1.87E+01                            |  |  |
| Pu-238                           | 5.05E+00                            |  |  |
| Pu-239                           | 6.78E-02                            |  |  |
| Pu-240                           | 1.27E-01                            |  |  |
| Pu-241                           | 1.45E+03                            |  |  |
| Pu-242                           | 6.41E-07                            |  |  |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# RL-W592 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W592 Stream Name 308 TRU CH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 2.5    | 0.0   | 2.5   |
|                      | As-Generated Total | 2.5    | 0.0   | 2.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.5    | 0.0   | 2.5   |
|                    | Final Form Total | 2.5    | 0.0   | 2.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 456.34                        |
| Other Inorganic Materials      | 7.13                          |
| Cellulosics                    | 4.13                          |
| Rubber                         | 2.80                          |
| Plastics                       | 17.79                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 3.33                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.46E+00                            |
| Pu-238  | 4.60E+00                            |
| Pu-239  | 2.62E-01                            |
| Pu-240  | 3.42E-01                            |
| Pu-241  | 4.88E+02                            |
| Pu-242  | 1.12E-07                            |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# RL-W593 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W593 Stream Name 308 TRU CH inorganic non-metal S5121 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5121 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 46.84                         |
| Other Inorganic Materials      | 652.22                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 7.27                          |
| Solidified, Inorganic Matrix   | 0.64                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Pu-239  | 3.78E-02                            |
| Pu-240  | 6 42F-02                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W594 | Stream Name | 308 TRU | CH combustible S5319 Non-mixed |                   |       |               | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|--------------------------------|-------------------|-------|---------------|------------------------|-----------|
| Local ID | N/A     | Handling    | CH      | Final Waste Form Combustible   | Waste Matrix Code | S5319 | Activity Cond | centrations Decayed to | CY 2002   |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 2.5    | 0.0   | 2.5   |
|                      |                    | 0.5    | 0.0   | 0.5   |
|                      | As-Generated Total | 2.5    | 0.0   | 2.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.5    | 0.0   | 2.5   |
|                    | Final Form Total | 2.5    | 0.0   | 2.5   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.73                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 51.79                         |
| Other Inorganic Materials      | 2.81                          |
| Cellulosics                    | 4.16                          |
| Rubber                         | 22.72                         |
| Plastics                       | 234.84                        |
| Solidified, Inorganic Matrix   | 1.12                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.10                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.86E+01                            |
| Pu-238  | 8.30E-01                            |
| Pu-239  | 1.17E-02                            |
| Pu-240  | 2.17E-02                            |
| Pu-241  | 1.22E+02                            |
| Pu-242  | 4.10E-08                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W595 Stream Name 308 TRU CH combustible S5390 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

**RL-W595** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 70.39                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 42.65                         |
| Rubber                         | 4.26                          |
| Plastics                       | 48.55                         |
| Solidified, Inorganic Matrix   | 4.01                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.40E-02                            |
| Pu-238  | 3.46E-01                            |
| Pu-239  | 3.20E-02                            |
| Pu-240  | 6.31E-02                            |
| Pu-241  | 4.84E+00                            |
| Pu-242  | 3.83E-09                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W596 | Stream Name | 308 TRU | CH filter S5410 Non-mixed |                         |               | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|---------------------------|-------------------------|---------------|------------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Filter   | Waste Matrix Code S5410 | Activity Cond | centrations Decayed to | CY 2002   |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |             |        |       |       |
|----------------------|-------------|--------|-------|-------|
| ContainerType        | :           | Stored | Proj. | Total |
| Standard Waste Box   |             | 9.4    | 0.0   | 9.4   |
| As-Gone              | rated Total | 9.4    | 0.0   | 9.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 9.4    | 0.0   | 9.4   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 9.95                          |
| Cellulosics                    | 6.02                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.21                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.84E-03                            |
| Pu-238  | 1.78E-03                            |
| Pu-239  | 2.18E-05                            |
| Pu-240  | 3.92E-05                            |
| Pu-241  | 9.60E-02                            |
| Pu-242  | 1.99E-11                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 308 TRU CH heterogeneous S5420 Non-mixed HQ ID RL-W597 Inventory Date 9/30/2002 N/A CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002 Local ID Handling

**Final Waste Form Descriptors** 

**RL-W597** 

Category: Defense TRU Waste **Source:** Facility/Equipment Operation and Maintenance

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 3.1    | 0.0   | 3.1   |
|                      | As-Generated Total | 3.1    | 0.0   | 3.1   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 3.1    | 0.0   | 3.1   |
| •                  |        |       |       |

Final Form Total 3.1 0.0

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 305.22                        |
| Other Inorganic Materials      | 51.90                         |
| Cellulosics                    | 10.49                         |
| Rubber                         | 0.19                          |
| Plastics                       | 44.33                         |
| Solidified, Inorganic Matrix   | 10.85                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 1.00E+01                            |  |  |  |  |
| Pu-238  | 2.37E+00                            |  |  |  |  |
| Pu-239  | 1.28E-01                            |  |  |  |  |
| Pu-240  | 2.15E-01                            |  |  |  |  |
| Pu-241  | 5.43E+02                            |  |  |  |  |
| Pu-242  | 2.35E-07                            |  |  |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W598 | Stream Name | 308 TRU | CH heterogeneous S5440 Non-mixed      |                         |               | Inventory Date         | 9/30/2002      |
|----------|---------|-------------|---------|---------------------------------------|-------------------------|---------------|------------------------|----------------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440 | Activity Cond | centrations Decayed to | <b>CY</b> 2002 |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 8.7    | 0.0   | 8.7   |
|                      | As-Generated Total | 8.7    | 0.0   | 8.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 8.7    | 0.0   | 8.7   |
|                    | Final Form Total | 8.7    | 0.0   | 8.7   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 38.60                         |
| Aluminum-Base Metal/Alloys     | 0.10                          |
| Other Metal/Alloys             | 87.53                         |
| Other Inorganic Materials      | 17.28                         |
| Cellulosics                    | 28.93                         |
| Rubber                         | 9.83                          |
| Plastics                       | 72.51                         |
| Solidified, Inorganic Matrix   | 2.83                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.25                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|
| 3.92E+00                            |  |  |  |  |  |
| 4.99E+00                            |  |  |  |  |  |
| 6.36E-02                            |  |  |  |  |  |
| 9.58E-02                            |  |  |  |  |  |
| 2.00E+02                            |  |  |  |  |  |
| 4.98E-08                            |  |  |  |  |  |
|                                     |  |  |  |  |  |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W599 Stream Name 308 TRU CH heterogeneous S5900 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W599** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 346.15                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 5.78                          |
| Rubber                         | 0.00                          |
| Plastics                       | 49.04                         |
| Solidified, Inorganic Matrix   | 153.87                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.28E+00                            |
| Pu-238  | 1.69E+00                            |
| Pu-239  | 2.26E-02                            |
| Pu-240  | 4.24E-02                            |
| Pu-241  | 4.84E+02                            |
| Pu-242  | 2.14E-07                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the FUELS DEVELOPMENT LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID                        | RL-W600         | Stream Nam | <b>e</b> 318 T | TRU CH solidified inorganic S3119 Non-mixed |                           |                         |              | Inventor        | y Date 9/30/2002 |
|------------------------------|-----------------|------------|----------------|---|---------------------------|-------------------------|--------------|-----------------|------------------|
| Local ID                     | N/A             | Handlin    | g CH           | Final Waste Form Solidified Inorganics      | 3                         | Waste Matrix Code S3119 | Activity Cor | centrations Dec | ayed to CY 2002  |
| Final Waste Form Descriptors |                 |            |                |   | Waste Material Parameters |                         | Final Form R | adionuclides    |                  |
| Categ                        | ory: Defense TF | RU Waste   | Source:        |   |                           |                         | Average      |                 | Typical          |
|                              | ·               | -          |                | Waste                                       |                           |                         | Density      |                 | Concentration    |

# Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| 55 Gallon Drum       |                   | 0.4    | 0.2   | 0.6   |
| Α                    | s-Generated Total | 0.4    | 0.2   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.2   | 0.6   |
|                    | Final Form Total | 0.4    | 0.2   | 0.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 180.00                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 24.00                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 163.20                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

|     | <b>u u</b> |                                     |
|-----|------------|-------------------------------------|
| Iso | tope       | Typical<br>Concentration<br>(Ci/m3) |
| Am  | -241       | 1.48E-07                            |
| Pu- | 238        | 4.23E-08                            |
| Pu- | 239        | 1.61E-06                            |
| Pu- | 240        | 3.61E-07                            |
| Pu- | 241        | 4.84E-06                            |
| Pu- | 242        | 2.18E-11                            |

# **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the RADIOLOGICAL CALIBRATIONS LABORATORY.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IQ ID RL-W601 Stream Name 324 MTRU CH solidified of                            | 0          |              |          | 7.0                          |                               |                 | ory Date 9/30/2002                  |
|--|------------|--------------|----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa   | ste Form   | Solidified ( | Organics | Waste Matrix Code L2290      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |              |          | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborate  Waste Volume Detail (m3) | tory Waste |              |          | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |              |          | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 1.33E-04                            |
| ContainerType  | Stored     | Proj.        | Total    | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 8.91E-05                            |
| 55 Gallon Drum   | 0.4        | 0.4          |          | Other Metal/Alloys           | 59.05                         | Pu-238          | 1.54E-04                            |
|  |            |              |          | Other Inorganic Materials    | 14.39                         | Pu-239          | 5.39E-03                            |
| As-Generated Total   | 0.4        | 0.4          | 8.0      | Cellulosics                  | 0.00                          | Pu-240          | 1.21E-03                            |
| Final Form Volumes   |            |              |          | Rubber                       | 0.00                          | Pu-241          | 2.68E-02                            |
| ContainerType  | Stored     | Proj.        | Total    | Plastics                     | 19.13                         | Pu-242          | 7.27E-08                            |
| 55 Gallon Drum   | 0.4        | 0.4          |          | Solidified, Inorganic Matrix | 0.00                          | Sr-90           | 8.18E-05                            |
|  | UT         | 0.1          | 0.0      | Cement (Solidified)          | 0.00                          | L               |                                     |
| Final Form Total   | 0.4        | 0.4          | 0.8      | Vitrified                    | 0.00                          |                 |                                     |

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

Soils

59.52

0.00

131.00

37.00

0.00

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W602 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W602 Stream Name 324 TRU CH Pb/Cd metal S5112 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code S5112 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Drum / 55 gallon     | 0.0    | 0.4   | 0.4   |
| Standard Waste Box   | 1.9    | 0.0   | 1.9   |
| L                    | 1      |       |       |

| As-Generated Total | 1.9 | 0.4 | 2.3 |
|--------------------|-----|-----|-----|

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.0    | 0.4   | 0.4   |
| Standard Waste Box | 1.9    | 0.0   | 1.9   |

**Final Form Total** 1.9 0.4 2.3

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 2105.26                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 78.95                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 149.84                        |
| Packaging Material, Plastic    | 7.68                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.69E-01                            |
| Pu-238  | 5.88E-02                            |
| Pu-239  | 2.19E+00                            |
| Pu-240  | 4.91E-01                            |
| Pu-241  | 7.60E+00                            |
| Pu-242  | 2.95E-05                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W603 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W603 Stream Name 324 TRU CH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 7.6    | 0.0   | 7.6   |
|                      | As-Generated Total | 7.6    | 0.0   | 7.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 7.6    | 0.0   | 7.6   |
|                    | Final Form Total | 7.6    | 0.0   | 7.6   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 79.83                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.58E-01                            |
| Pu-238  | 1.25E-01                            |
| Pu-239  | 4.64E+00                            |
| Pu-240  | 1.04E+00                            |
| Pu-241  | 1.61E+01                            |
| Pu-242  | 6.25E-05                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W604 Stream Name 324 MTRU CH uncategori                               | zed metal | S5119 Mix  | xed RCRA w/ | org                          |                               | Invento         | ory Date 9/30/2002                  |
|--|-----------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Was   | ste Form  | Jncategori | zed Metal   | Waste Matrix Code S5119      | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors   |           |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborate  Waste Volume Detail (m3) | ory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |           |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 5.35E-02                            |
| ContainerType  | Stored    | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 1.70E-01                            |
| 55 Gallon Drum   | 0.2       | 0.0        | 0.2         | Other Metal/Alloys           | 161.81                        | Pu-238          | 1.18E-02                            |
|  |           |            |             | Other Inorganic Materials    | 0.00                          | Pu-239          | 8.14E-02                            |
| As-Generated Total   | 0.2       | 0.0        | 0.2         | Cellulosics                  | 3.76                          | Pu-240          | 4.05E-02                            |
| Final Form Volumes   |           |            |             | Rubber                       | 0.00                          | Pu-241          | 6.90E-01                            |
| ContainerType  | Stored    | Proj.      | Total       | Plastics                     | 24.69                         | Pu-242          | 3.97E-06                            |
| 55 Gallon Drum   | 0.2       | 0.0        | 0.2         | Solidified, Inorganic Matrix | 0.00                          | Sr-90           | 1.68E-03                            |
|  | L         | !          |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2       | 0.0        | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|  |           |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |           |            |             | Soils                        | 0.00                          |                 |                                     |
|  |           |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |           |            |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W605 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                  | -           | -      |                                       |     |                           |              |                   | _              |
|----------|------------------|-------------|--------|---------------------------------------|-----|---------------------------|--------------|-------------------|----------------|
| HQ ID    | RL-W605          | Stream Name | 324 MT | RU CH combustible S5330 Mixed RCRA w/ | org |                           |              | Inventory [       | Date 9/30/2002 |
| Local ID | N/A              | Handling    | СН     | Final Waste Form Combustible          |     | Waste Matrix Code S5330   | Activity Cor | centrations Decay | ed to CY 2002  |
| Final Wa | ste Form Descrip | otors       |        |                                       |     | Waste Material Parameters |              | Final Form Rad    | lionuclides    |
| Cated    | orv: Defense TF  | RU Waste So | ource: | R&D/R&D Laboratory Waste              |     |                           | Average      |                   | Typical        |

# Waste Volume Detail (m3)

55 Gallon Drum

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

|                  | Stored | Proj. | Total |
|------------------|--------|-------|-------|
|                  | 0.2    | 0.0   | 0.2   |
| Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 100.00                        |
| Rubber                         | 0.00                          |
| Plastics                       | 28.57                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.23E-03                            |
| Cs-137  | 3.59E-03                            |
| Pu-238  | 2.57E-03                            |
| Pu-239  | 9.01E-02                            |
| Pu-240  | 2.02E-02                            |
| Pu-241  | 4.48E-01                            |
| Pu-242  | 1.22E-06                            |
| Sr-90   | 3.29E-03                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

#### **RL-W606** Waste Stream ID:

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W606 Stream Name 324 MTRU CH combustib Local ID N/A Handling CH Final Was     | le S5390 M<br>ste Form |       |       |                    | Waste Matrix Code S5390       | Activity (       |                                     | entory Date 9/30/2002<br>s Decayed to CY 2002 |
|--|------------------------|-------|-------|--------------------|-------------------------------|------------------|-------------------------------------|---|
|  |                        |       |       |                    | Final Fo                      | rm Radionuclides |                                     |   |
| Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste  Waste Volume Detail (m3) |                        |       | ]     | Material Parameter | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |   |
| As-Generated Volumes   |                        |       |       |                    | Iron-Base Metal/Alloys        | 193.33           | Am-241                              | 8.98E-04                                      |
| ContainerType  | Stored                 | Proj. | Total | ,                  | Aluminum-Base Metal/Alloys    | 0.00             | Cs-137                              | 1.75E-02                                      |
| 55 Gallon Drum   | 0.2                    | 0.0   | 0.2   |                    | Other Metal/Alloys            | 0.00             | Pu-238                              | 1.03E-03                                      |

0.2

0.2

0.2

0.0

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

As-Generated Total

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 193.33                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 117.14                        |
| Rubber                         | 111.90                        |
| Plastics                       | 71.43                         |
| Solidified, Inorganic Matrix   | 2.38                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# Pu-238 1.03E-03 3.63E-02 Pu-239 Pu-240 8.13E-03 1.81E-01 Pu-241

4.90E-07 1.60E-02

Pu-242

Sr-90

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# RL-W607 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W607 Stream Name 324 MTRU CH heterogeneous S5440 Mixed RCRA w/ org
Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 45.19                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 116.52                        |
| Rubber                         | 0.00                          |
| Plastics                       | 19.05                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.03E-03                            |
| Cs-137  | 1.50E-01                            |
| Pu-238  | 2.00E-03                            |
| Pu-239  | 1.38E-02                            |
| Pu-240  | 6.85E-03                            |
| Pu-241  | 1.17E-01                            |
| Pu-242  | 6.70E-07                            |
| Sr-90   | 1.48E-03                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

0.00

0.00

0.00

152.42 3.66

#### **RL-W608** Waste Stream ID:

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| ino i  | *************************************** | - TOLLI    | 12          | OKT WASTET KOTILE            |                               |                 |                                     |
|--|---|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| HQ ID RL-W608 Stream Name 324 MTRU CH heterogen                              | neous S549                              | 00 Mixed F | RCRA w/ met |                              |                               | Invent          | ory Date 9/30/2002                  |
| _ocal ID N/A Handling CH Final Wa  | ste Form                                | Heterogen  | eous Debris | Waste Matrix Code S5490      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |   |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste                              |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |   |            |             | Iron-Base Metal/Alloys       | 3.41                          | Am-241          | 3.23E-03                            |
| ContainerType  | Stored                                  | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 2.13E-01                            |
| 55 Gallon Drum   | 0.4                                     | 0.0        |             | Other Metal/Alloys           | 16.96                         | Pu-238          | 2.67E-03                            |
| Standard Waste Box   | 5.7                                     | 0.0        |             | Other Inorganic Materials    | 102.62                        | Pu-239          | 6.14E-04                            |
| Standard Wasto Box   | 0.1                                     | 0.0        | 0.1         | Cellulosics                  | 0.29                          | Pu-240          | 7.63E-04                            |
| As-Generated Total   | 6.1                                     | 0.0        | 6.1         | Rubber                       | 0.00                          | Pu-241          | 6.14E-02                            |
| Final Form Volumes   |   |            |             | Plastics                     | 1.80                          | Pu-242          | 1.77E-06                            |
| ContainerType  | Stored                                  | Proj.      | Total       | Solidified, Inorganic Matrix | 0.00                          | Sr-90           | 1.37E-01                            |
| 55 Gallon Drum   | 0.4                                     | 0.0        |             | Cement (Solidified)          | 0.00                          |                 | <b>.</b>                            |
| Standard Waste Box   | 5.7                                     | 0.0        |             | Vitrified                    | 0.00                          |                 |                                     |
| Standard Waste Dox   | 5.7                                     | 0.0        | 3.7         | Solidified, Organic Matrix   | 0.00                          |                 |                                     |

6.1

Soils

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

Final Form Total

6.1

0.0

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W610 Stream Name 324 TRU CH Pb/Cd meta                             | l X7219 No | n-mixed   |            |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | _ead/Cadn | nium Metal | Waste Matrix Code X7219      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |            | Iron-Base Metal/Alloys       | 1024.21                       | Am-241     | 8.04E-01                            |
| ContainerType   | Stored     | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 2.29E-01                            |
| Standard Waste Box  | 3.8        | •         |            | Other Metal/Alloys           | 863.26                        | Pu-239     | 8.74E+00                            |
| <u></u>   |            |           |            | Other Inorganic Materials    | 0.00                          | Pu-240     | 1.96E+00                            |
| As-Generated Total  | 3.8        | 0.0       | 3.8        | Cellulosics                  | 0.00                          | Pu-241     | 2.63E+01                            |
| Final Form Volumes  |            |           |            | Rubber                       | 0.00                          | Pu-242     | 1.18E-04                            |
| ContainerType   | Stored     | Proj.     | Total      | Plastics                     | 0.00                          |            |                                     |
| Standard Waste Box  | 3.8        | 0.0       | 3.8        | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|   |            |           |            | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 3.8        | 0.0       | 3.8        | Vitrified                    | 0.00                          |            |                                     |
|   |            |           |            | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |            |           |            | Soils                        | 0.00                          |            |                                     |
|   |            |           |            | Packaging Material, Steel    | 154.00                        |            |                                     |
|   |            |           |            | Packaging Material, Plastic  | 1.20                          |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W612 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W612 Stream Name 324 TRU CH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 0.2    | 2.7   | 2.9   |
| Standard Waste Box   | 0.0    | 1.9   | 1.9   |
| As-Generated Total   | 0.2    | 4.6   | 4.8   |

| Final Form Volumes |   |        |       |       |
|--------------------|---|--------|-------|-------|
| ContainerType      | S | Stored | Proj. | Total |
| 55-Gallon Drum     |   | 0.2    | 2.7   | 2.9   |
| Standard Waste Box |   | 0.0    | 1.9   | 1.9   |
|                    |   |        |       |       |

 Final Form Total
 0.2
 4.6
 4.8

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 8.82                          |
| Other Inorganic Materials      | 2.65                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 53.48                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 140.05                        |
| Packaging Material, Plastic    | 22.91                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.26E-04                            |
| Cs-137  | 1.30E-02                            |
| Pu-238  | 2.13E-04                            |
| Pu-239  | 8.15E-03                            |
| Pu-240  | 1.83E-03                            |
| Pu-241  | 2.39E-02                            |
| Pu-242  | 1.10E-07                            |
| Sr-90   | 1.15E-02                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

# Waste Stream ID: RL-W613 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W613 Stream Name 324 TRU RH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                |        |       |       |
|----------------------|----------------|--------|-------|-------|
| ContainerType        |                | Stored | Proj. | Total |
| RH Canister          |                | 45.4   | 0.0   | 45.4  |
|                      |                |        |       |       |
| As-G                 | enerated Total | 45.4   | 0.0   | 45.4  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 45.4   | 0.0   | 45.4  |
|                    | Final Form Total | 45.4   | 0.0   | 45.4  |

**Waste Material Parameters** 

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 141.11                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 510.44                        |
| Other Inorganic Materials      | 0.64                          |
| Cellulosics                    | 1.80                          |
| Rubber                         | 6.42                          |
| Plastics                       | 3.03                          |
| Solidified, Inorganic Matrix   | 0.42                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

## **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|--|
| Am-241  | 1.58E+00                            |  |  |  |  |  |
| Cs-137  | 9.19E+02                            |  |  |  |  |  |
| Pu-238  | 7.23E-02                            |  |  |  |  |  |
| Pu-239  | 1.39E-01                            |  |  |  |  |  |
| Pu-240  | 3.38E-02                            |  |  |  |  |  |
| Pu-241  | 1.05E+00                            |  |  |  |  |  |
| Pu-242  | 1.28E-03                            |  |  |  |  |  |
| Sr-90   | 4.49E+02                            |  |  |  |  |  |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W614          | Stream Name 324 M | TRU RH uncategorized metal S5119 Mixed RC | RA w/ me |                           |                    |                  | y Date 9/30/2002      |
|----------|------------------|-------------------|---|----------|---------------------------|--------------------|------------------|-----------------------|
| Local ID | N/A              | Handling RH       | Final Waste Form Uncategorized Me         | tal      | Waste Matrix Code S5119   | Activity Con       | centrations Deca | ayed to CY 2002       |
| Final Wa | ste Form Descrip | otors             |   |          | Waste Material Parameters |                    | Final Form R     | adionuclides          |
| Categ    | pory: Defense TF | RU Waste Source:  | R&D/R&D Laboratory Waste                  |          |                           | Average<br>Density |                  | Typical Concentration |

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 15.1   | 21.4  | 36.5  |
|                      | As-Generated Total | 15.1   | 21.4  | 36.5  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 15.1   | 21.4  | 36.5  |
|                      | Final Form Total   | 15.1   | 21.4  | 36.5  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 293.95                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 288.50                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 2.19                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 10.37                         |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.24E+00                            |
| Cs-137  | 2.00E+03                            |
| Pu-238  | 4.56E-01                            |
| Pu-239  | 8.52E-02                            |
| Pu-240  | 8.33E-02                            |
| Pu-241  | 4.10E+00                            |
| Pu-242  | 1.39E-04                            |
| Sr-90   | 1.50E+03                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W615 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W615 | Stream Name | 324 TRU | CH inorganic non-metal S5122 Non-mixed |                   |       |               | Inventory Date         | 9/30/2 | 2002 |
|----------|---------|-------------|---------|--|-------------------|-------|---------------|------------------------|--------|------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Inorganic Non-Metal   | Waste Matrix Code | S5122 | Activity Cond | centrations Decayed to | CY 2   | 2002 |

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 1.9    | 0.0   | 1.9   |
|                      | As-Generated Total | 1.9    | 0.0   | 1.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |
|                    | Final Form Total | 1.9    | 0.0   | 1.9   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 166.67                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 335.45                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Pu-239  | 1.79E-01                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W616 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W616 Stream Name 324 TRU RH inorganic non-metal S5190 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5190 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 5.3    | 0.0   | 5.3   |
|                      | As-Generated Total | 5.3    | 0.0   | 5.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 5.3    | 0.0   | 5.3   |
|                    | Final Form Total | 5.3    | 0.0   | 5.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 768.48                        |
| Other Inorganic Materials      | 1302.99                       |
| Cellulosics                    | 0.05                          |
| Rubber                         | 19.66                         |
| Plastics                       | 15.39                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.35E+00                            |
| Cs-137  | 5.55E+02                            |
| Pu-238  | 1.05E-01                            |
| Pu-239  | 3.28E-02                            |
| Pu-240  | 3.21E-02                            |
| Pu-241  | 1.51E+00                            |
| Pu-242  | 5.37E-05                            |
| Sr-90   | 5.51E+02                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

# Waste Stream ID: RL-W617 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W617 Stream Name 324 TRU RH filter S5410 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

## **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 1.8    | 0.0   | 1.8   |
|                      | As-Generated Total | 1.8    | 0.0   | 1.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 1.8    | 0.0   | 1.8   |
|                    | Final Form Total | 1.8    | 0.0   | 1.8   |

## **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 261.43                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 164.38                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 1.41                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

# **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.30E-01                            |
| Cs-137  | 8.00E+01                            |
| Pu-238  | 1.50E-02                            |
| Pu-239  | 4.63E-03                            |
| Pu-240  | 4.52E-03                            |
| Pu-241  | 2.22E-01                            |
| Pu-242  | 7.52E-06                            |
| Sr-90   | 7.94E+01                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W618 Stream Name 324 TRU RH heterogeneous S5420 Non-mixed |                   |               |           |             |                              |                                      |            |                                     |  |  |  |
|----------|--|-------------------|---------------|-----------|-------------|------------------------------|--------------------------------------|------------|-------------------------------------|--|--|--|
| Local ID | N/A  | Handling RH Final | Waste Form    | Heterogen | eous Debris | Waste Matrix Code S5420      | Waste Matrix Code S5420 Activity Con |            |                                     |  |  |  |
| Final Wa | ste Form Descrip   | otors             |               |           |             | Waste Material Parameters    |                                      | Final Form | Radionuclides                       |  |  |  |
|          | pory: Defense TF olume Detail (m3)                           |                   | oratory Waste | •         |             | Material Parameter           | Average<br>Density<br>(kg/m3)        | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| As-Ge    | enerated Volumes   |                   |               |           |             | Iron-Base Metal/Alloys       | 2737.01                              | Am-241     | 3.50E+00                            |  |  |  |
|          | inerType   |                   | Stored        | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                                 | Cs-137     | 3.00E+02                            |  |  |  |
|          | anister  |                   | 1.8           |           |             | Other Metal/Alloys           | 1290.48                              | Pu-238     | 5.90E-01                            |  |  |  |
|          |  |                   |               |           |             | Other Inorganic Materials    | 0.00                                 | Pu-239     | 7.78E-02                            |  |  |  |
|          |  | As-Generated To   | tal 1.8       | 0.0       | 1.8         | Cellulosics                  | 0.00                                 | Pu-240     | 7.42E-02                            |  |  |  |
| Final    | Form Volumes   |                   |               |           |             | Rubber                       | 9.88                                 | Pu-241     | 2.52E+02                            |  |  |  |
| Conta    | inerType   |                   | Stored        | Proj.     | Total       | Plastics                     | 39.50                                | Pu-242     | 1.22E-06                            |  |  |  |
| RH Ca    | anister  |                   | 1.8           | 0.0       | 1.8         | Solidified, Inorganic Matrix | 0.00                                 | Sr-90      | 1.17E+01                            |  |  |  |
|          |  |                   |               |           | <u>-</u>    | Cement (Solidified)          | 0.00                                 |            |                                     |  |  |  |
|          |  | Final Form To     | tal 1.8       | 0.0       | 1.8         | Vitrified                    | 0.00                                 |            |                                     |  |  |  |
|          |  |                   |               |           |             | Solidified, Organic Matrix   | 0.00                                 |            |                                     |  |  |  |
|          |  |                   |               |           |             | Soils                        | 0.00                                 |            |                                     |  |  |  |
|          |  |                   |               |           |             | Packaging Material, Steel    | 434.00                               |            |                                     |  |  |  |
|          |  |                   |               |           |             | Packaging Material, Plastic  | 0.00                                 |            |                                     |  |  |  |
|          |  |                   |               |           |             | Packaging Material, Lead     | 464.00                               |            |                                     |  |  |  |

Packaging Material, Steel Plug

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W619 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W619 Stream Name 324 MTRU RH heterogeneous S5420 Mixed RCRA w/ met

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 24.9   | 0.0   | 24.9  |
|                      | As-Generated Total | 24.9   | 0.0   | 24.9  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 24.9   | 0.0   | 24.9  |
|                    | Final Form Total | 24.9   | 0.0   | 24.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 312.95                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 211.92                        |
| Other Inorganic Materials      | 0.70                          |
| Cellulosics                    | 0.02                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.20                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 123.18                        |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.13E+01                            |
| Cs-137  | 3.55E+03                            |
| Pu-238  | 8.02E-01                            |
| Pu-239  | 1.57E-01                            |
| Pu-240  | 1.54E-01                            |
| Pu-241  | 7.32E+00                            |
| Pu-242  | 2.36E-04                            |
| Sr-90   | 2.23E+03                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID                        | RL-W620         |          | Inventory      | y Date 9/30/2002                   |         |                                  |               |              |         |
|------------------------------|-----------------|----------|----------------|------------------------------------|---------|----------------------------------|---------------|--------------|---------|
| Local ID                     | N/A             | Handli   | i <b>ng</b> RH | Final Waste Form Heterogeneous Deb | / Conce | oncentrations Decayed to CY 2002 |               |              |         |
| Final Waste Form Descriptors |                 |          |                | <br>Waste Material Parameters      |         |                                  | Final Form Ra | adionuclides |         |
| Categ                        | ory: Defense TF | RU Waste | Source:        | R&D/R&D Laboratory Waste           |         | Average                          |               |              | Typical |

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 1.8    | 0.0   | 1.8   |
|                      | As-Generated Total | 1.8    | 0.0   | 1.8   |
| Final Form Volumes   |                    |        |       |       |

| ContainerType |                  | Stored | Proj. | Total |
|---------------|------------------|--------|-------|-------|
| RH Canister   |                  | 1.8    | 0.0   | 1.8   |
|               | Final Form Total | 1.8    | 0.0   | 1.8   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 261.43                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 229.55                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.24E-02                            |
| Cs-137  | 2.23E+01                            |
| Pu-238  | 4.18E-03                            |
| Pu-239  | 1.29E-03                            |
| Pu-240  | 1.27E-03                            |
| Pu-241  | 6.21E-02                            |
| Pu-242  | 2.13E-06                            |
| Sr-90   | 2.23E+01                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

#### **RL-W621** Waste Stream ID:

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID<br>Local ID | RL-W621<br>N/A    |                 | MTRU RH heterogeneous S5490 Mixed RCRA w/ |                           | Activity Cond      |              | ry Date 9/30/2002<br>cayed to CY 2002 |
|-------------------|-------------------|-----------------|---|---------------------------|--------------------|--------------|---------------------------------------|
| Final Wa          | ste Form Descrip  | otors           |   | Waste Material Parameters |                    | Final Form R | Radionuclides                         |
| Cateo             | gory: Defense TF  | RU Waste Source | e: R&D/R&D Laboratory Waste               |                           | Average<br>Density |              | Typical<br>Concentration              |
| Waste V           | olume Detail (m3) | )               |   | Material Parameter        | (kg/m3)            | Isotope      | (Ci/m3)                               |

12.5

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| RH Canister          | 12.5   | 0.0   | 12.5  |
| As-Generated Total   | 12.5   | 0.0   | 12.5  |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| RH Canister          | 12.5   | 0.0   | 12.5  |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.98                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 17.38                         |
| Other Inorganic Materials      | 96.14                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 2.65                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.26E-03                            |
| Cs-137  | 1.02E+00                            |
| Pu-238  | 1.10E-02                            |
| Pu-239  | 1.14E-03                            |
| Pu-240  | 2.08E-03                            |
| Pu-241  | 2.96E-01                            |
| Pu-242  | 8.57E-06                            |
| Sr-90   | 6.56E-01                            |

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

Final Form Total

12.5

0.0

# **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W622 Stream Name 324 TRU CH Pb/Cd met                             | tal X7219 N | on-mixed  |            |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|-------------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final W   | aste Form   | Lead/Cadr | nium Metal | Waste Matrix Code X7219      | Activity Cor                  |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |             |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labor Waste Volume Detail (m3) | atory Waste | •         |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |            | Iron-Base Metal/Alloys       | 892.80                        | Am-241     | 6.37E-05                            |
| ContainerType  | Stored      | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 1.82E-05                            |
| Standard Waste Box   | 1.9         |           |            | Other Metal/Alloys           | 44.57                         | Pu-239     | 6.93E-04                            |
|  |             | I         |            | Other Inorganic Materials    | 0.00                          | Pu-240     | 1.55E-04                            |
| As-Generated Tota  | I 1.9       | 0.0       | 1.9        | Cellulosics                  | 0.00                          | Pu-241     | 2.08E-03                            |
| Final Form Volumes   |             |           |            | Rubber                       | 0.00                          | Pu-242     | 9.35E-09                            |
| ContainerType  | Stored      | Proj.     | Total      | Plastics                     | 0.00                          |            | -                                   |
| Standard Waste Box   | 1.9         |           | 1.9        | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|  |             |           |            | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Tota  | 1.9         | 0.0       | 1.9        | Vitrified                    | 0.00                          |            |                                     |
|  |             |           |            | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |             |           |            | Soils                        | 0.00                          |            |                                     |
|  |             |           |            | Packaging Material, Steel    | 154.00                        |            |                                     |
|  |             |           |            | Packaging Material, Plastic  | 1.20                          |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

# **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

# **Management Comments**

# Waste Stream ID: RL-W623 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W623 Stream Name 324 MTRU RH Pb/Cd metal X7219 Mixed RCRA w/ met

Local ID N/A Handling RH Final Waste Form Lead/Cadmium Metal Waste Matrix Code X7219 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 9.8    | 0.0   | 9.8   |
|                      | As-Generated Total | 9.8    | 0.0   | 9.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 9.8    | 0.0   | 9.8   |
|                    | Final Form Total | 9.8    | 0.0   | 9.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 434.76                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 140.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i orili itaalollaciiaes |                                     |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                          | 3.12E-02                            |  |  |  |
| Cs-137                          | 3.22E+01                            |  |  |  |
| Pu-238                          | 6.98E-03                            |  |  |  |
| Pu-239                          | 1.17E-03                            |  |  |  |
| Pu-240                          | 1.15E-03                            |  |  |  |
| Pu-241                          | 5.37E-02                            |  |  |  |
| Pu-242                          | 1.91E-06                            |  |  |  |
| Sr-90                           | 1.72E+01                            |  |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMICAL ENGINEERING BUILDING.

### **Management Comments**

# Waste Stream ID: RL-W625 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W625 Stream Name 325 MTRU CH solidified inorganic L1190 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code L1190 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

# Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.76                          |
| Solidified, Inorganic Matrix   | 28.42                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.41E-03                            |
| Pu-238  | 2.49E-02                            |
| Pu-239  | 3.19E-02                            |
| Pu-240  | 3.15E-02                            |
| Pu-241  | 1.02E+00                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

### Waste Stream ID: RL-W626

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W626 Stream Name 325 MTRU CH solidified in                           | norganic S | 3113 Mixe    | ed RCRA w/ | met,Hg                       |                               | Invent          | ory Date 9/30/2002                  |
|---|------------|--------------|------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Was  | ste Form   | Solidified I | norganics  | Waste Matrix Code S3113      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |              |            | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborate Waste Volume Detail (m3) | tory Waste |              |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |              |            | Iron-Base Metal/Alloys       | 11.62                         | Am-241          | 1.67E+00                            |
| ContainerType   | Stored     | Proj.        | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 5.65E-01                            |
| 55 Gallon Drum  | 0.2        | 0.0          |            | Other Metal/Alloys           | 10.67                         | Pu-239          | 1.25E+00                            |
| 55 Sanon 21an   | V          | 0.0          | V          | Other Inorganic Materials    | 11.62                         | Pu-240          | 7.55E-01                            |
| As-Generated Total  | 0.2        | 0.0          | 0.2        | Cellulosics                  | 3.62                          | Pu-241          | 1.77E+01                            |
| Final Form Volumes  |            |              |            | Rubber                       | 0.00                          | Pu-242          | 3.98E-04                            |
| ContainerType   | Stored     | Proj.        | Total      | Plastics                     | 15.90                         | U-235           | 9.40E-06                            |
| 55 Gallon Drum  | 0.2        | 0.0          |            | Solidified, Inorganic Matrix | 321.69                        | U-238           | 6.45E-06                            |

0.2

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

Vitrified

Soils

0.00

0.00

0.00

0.00

0.00

131.00 37.00

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

Final Form Total

0.2

0.0

#### **Management Comments**

### Waste Stream ID: RL-W627

Category: Defense TRU Waste

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W627          | Stream Name | 325 MTF | RU CH solidified inorganic S3119 Mixed RCRA w/ org | ,met,ign,cor              |               | Inventory Date 9/30/2002       |
|----------|------------------|-------------|---------|--|---------------------------|---------------|--------------------------------|
| Local ID | N/A              | Handling    | СН      | Final Waste Form Solidified Inorganics             | Waste Matrix Code S3119   | Activity Cond | centrations Decayed to CY 2002 |
| Final Wa | ste Form Descrip | tors        |         |  | Waste Material Parameters |               | Final Form Radionuclides       |

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    | I      |       |       |

Source: R&D/R&D Laboratory Waste

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55 Gallon Drum |                  | 0.2    | 0.0   | 0.2   |
|                | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 23.43                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 193.33                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.48E-03                            |
| Cs-137  | 4.51E-03                            |
| Pu-238  | 7.59E-04                            |
| Pu-239  | 5.90E-06                            |
| Pu-241  | 2.10E-01                            |
| Sr-90   | 4.11E-03                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W628** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325 MTRU CH solidified inorganic S3119 Mixed RCRA w/ met HQ ID RL-W628 Inventory Date 9/30/2002 N/A CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002 Local ID Handling

**Final Waste Form Descriptors** 

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total 0.2 0.0 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 105.60                        |
| Other Inorganic Materials      | 14.40                         |
| Cellulosics                    | 2.40                          |
| Rubber                         | 4.80                          |
| Plastics                       | 20.16                         |
| Solidified, Inorganic Matrix   | 101.76                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.57E-03                            |
| Pu-238  | 4.76E-04                            |
| Pu-239  | 1.80E-02                            |
| Pu-240  | 4.03E-03                            |
| Pu-241  | 5.67E-02                            |
| Pu-242  | 2.43E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# RL-W629 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W629 Stream Name 325 MTRU CH solidified inorganic S3119 Mixed RCRA w/cor Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 4.76                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 36.67                         |
| Solidified, Inorganic Matrix   | 63.67                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.68E-05                            |
| Pu-238  | 3.27E-05                            |
| Pu-239  | 1.21E-03                            |
| Pu-240  | 2.71E-04                            |
| Pu-241  | 4.40E-03                            |
| Pu-242  | 1.63E-08                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W630 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W630 Stream Name 325 TRU CH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Waste Material Parameters      |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 621.67                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 135.49                        |
| Other Inorganic Materials      | 4.54                          |
| Cellulosics                    | 4.54                          |
| Rubber                         | 3.02                          |
| Plastics                       | 19.56                         |
| Solidified, Inorganic Matrix   | 1.19                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.90E-01                            |
| Pu-238  | 3.05E-01                            |
| Pu-239  | 7.00E+00                            |
| Pu-240  | 1.63E+00                            |
| Pu-241  | 2.39E+01                            |
| Pu-242  | 2.80E-04                            |
| U-238   | 7.02E-06                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W631 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W631 Stream Name 325 MTRU CH uncategorized metal S5119 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 358.33                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 15.48                         |
| Solidified, Inorganic Matrix   | 9.52                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.66E-03                            |
| Cs-137  | 5.35E-08                            |
| Pu-238  | 3.06E-03                            |
| Pu-239  | 1.07E-01                            |
| Pu-240  | 2.41E-02                            |
| Pu-241  | 5.35E-01                            |
| Pu-242  | 1.45E-06                            |
| Sr-90   | 4.91E-08                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W632** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325 MTRU CH combustible S5319 Mixed RCRA w/ met HQ ID RL-W632 Inventory Date 9/30/2002 N/A CH Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002 Local ID Handling Final Waste Form Combustible

**Final Waste Form Descriptors** 

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total 0.2 0.0 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 272.38                        |
| Cellulosics                    | 12.38                         |
| Rubber                         | 0.00                          |
| Plastics                       | 119.05                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.39E+00                            |
| Cs-137  | 1.05E-02                            |
| Pu-238  | 8.31E-01                            |
| Pu-239  | 2.84E+01                            |
| Pu-240  | 9.38E+00                            |
| Pu-241  | 3.56E+02                            |
| Pu-242  | 3.96E-03                            |
| Sr-90   | 9.58E-03                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

### Waste Stream ID: RL-W633

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W633 Stream Name 325 TRU CH combustible                             | S5390 No   | n-mixed   |       |                              |                               | Invento    | ory Date 9/30/2002                  |
|--|------------|-----------|-------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Combustib | le    | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 2.94E-02                            |
| ContainerType  | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 4.79E-03                            |
| 55 Gallon Drum   | 0.2        | 0.0       |       | Other Metal/Alloys           | 39.00                         | Pu-239     | 4.46E-03                            |
|  |            |           |       | Other Inorganic Materials    | 5.19                          | Pu-240     | 3.96E-03                            |
| As-Generated Total   | 0.2        | 0.0       | 0.2   | Cellulosics                  | 104.00                        | Pu-241     | 4.39E-01                            |
| Final Form Volumes   |            |           |       | Rubber                       | 52.00                         |            |                                     |
| ContainerType  | Stored     | Proj.     | Total | Plastics                     | 64.57                         |            |                                     |
| 55 Gallon Drum   | 0.2        | 0.0       | 0.2   | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|  | l          |           |       | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total   | 0.2        | 0.0       | 0.2   | Vitrified                    | 0.00                          |            |                                     |
|  |            |           |       | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|  |            |           |       | Soils                        | 0.00                          |            |                                     |
|  |            |           |       | Packaging Material, Steel    | 131.00                        |            |                                     |
|  |            |           |       | Packaging Material Plastic   | 37 00                         |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### Waste Stream ID: RL-W634

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W634 Stream Name 325 TRU CH filter S5410                            | Non-mixed  | i      |       |                                |                               | Invento         | ory Date 9/30/2002                  |
|--|------------|--------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa   | ste Form   | Filter |       | Waste Matrix Code S5410        | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors   |            |        |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste | 1      |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |        |       | Iron-Base Metal/Alloys         | 0.00                          | Pu-239          | 4.87E-02                            |
| ContainerType  | Stored     | Proj.  | Total | Aluminum-Base Metal/Alloys     | 0.00                          |                 |                                     |
| 55 Gallon Drum   | 0.2        | 0.0    | 0.2   | Other Metal/Alloys             | 0.00                          |                 |                                     |
|  |            |        |       | Other Inorganic Materials      | 61.90                         |                 |                                     |
| As-Generated Total   | 0.2        | 0.0    | 0.2   | Cellulosics                    | 0.00                          |                 |                                     |
| Final Form Volumes   |            |        |       | Rubber                         | 0.00                          |                 |                                     |
| ContainerType  | Stored     | Proj.  | Total | Plastics                       | 11.43                         |                 |                                     |
| 55 Gallon Drum   | 0.2        | 0.0    | 0.2   | Solidified, Inorganic Matrix   | 0.00                          |                 |                                     |
|  |            |        |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0    | 0.2   | Vitrified                      | 0.00                          |                 |                                     |
|  |            |        |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|  |            |        |       | Soils                          | 0.00                          |                 |                                     |
|  |            |        |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |            |        |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |            |        |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |        |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W635 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W635 Stream Name 325 TRU CH heterogeneous S5420 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |           |        |       |       |
|----------------------|-----------|--------|-------|-------|
| ContainerType        |           | Stored | Proj. | Total |
| 55 Gallon Drum       |           | 4.0    | 0.0   | 4.0   |
| Standard Waste Box   |           | 11.4   | 0.0   | 11.4  |
| As-Genera            | ted Total | 15.4   | 0.0   | 15.4  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 4.0    | 0.0   | 4.0   |
| Standard Waste Box | 11.4   | 0.0   | 11.4  |
|                    |        |       |       |

**Final Form Total** 15.4 0.0 15.4

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 714.26                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 78.22                         |
| Other Inorganic Materials      | 140.68                        |
| Cellulosics                    | 8.76                          |
| Rubber                         | 0.41                          |
| Plastics                       | 9.35                          |
| Solidified, Inorganic Matrix   | 0.17                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 148.04                        |
| Packaging Material, Plastic    | 10.48                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.55E+00                            |
| Cs-137  | 5.66E-02                            |
| Pu-238  | 2.21E+00                            |
| Pu-239  | 2.82E-01                            |
| Pu-240  | 4.24E-01                            |
| Pu-241  | 6.04E+01                            |
| Pu-242  | 1.49E-03                            |
| Sr-90   | 1.14E-01                            |
| U-235   | 1.27E-05                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

### Waste Stream ID: RL-W636

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W636 Stream Name 325 MTRU CH heterogene                              | ous S542  | 0 Mixed R | CRA w/ org,met | t                            |                               | Invent          | ory Date 9/30/2002                  |
|---|-----------|-----------|----------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Was  | te Form ⊦ | Heterogen | eous Debris    | Waste Matrix Code S5420      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |           |                | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborate Waste Volume Detail (m3) | ory Waste |           |                | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |           |                | Iron-Base Metal/Alloys       | 2295.28                       | Am-241          | 3.57E-01                            |
| ContainerType   | Stored    | Proj.     | Total          | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 8.87E-02                            |
| 55 Gallon Drum  | 1.0       |           | 1.0            | Other Metal/Alloys           | 67.35                         | Pu-238          | 6.14E-02                            |
|   |           |           |                | Other Inorganic Materials    | 56.13                         | Pu-239          | 5.40E-02                            |
| As-Generated Total  | 1.0       | 0.0       | 1.0            | Cellulosics                  | 10.14                         | Pu-240          | 4.81E-02                            |
| Final Form Volumes  |           |           |                | Rubber                       | 1.65                          | Pu-241          | 5.38E+00                            |
| ContainerType   | Stored    | Proj.     | Total          | Plastics                     | 50.03                         | Pu-242          | 5.38E-05                            |
| 55 Gallon Drum  | 1.0       |           | 1.0            | Solidified, Inorganic Matrix | 1.31                          | Sr-90           | 1.78E-01                            |
|   |           |           |                | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 1.0       | 0.0       | 1.0            | Vitrified                    | 0.00                          |                 |                                     |
|   |           |           |                | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |           |           |                | Soils                        | 0.00                          |                 |                                     |
|   |           |           |                | Packaging Material, Steel    | 131.00                        |                 |                                     |
|   |           |           |                | Packaging Material, Plastic  | 37.00                         |                 |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W637** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325 MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met,Hg HQ ID RL-W637 Inventory Date 9/30/2002 N/A CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002 Local ID Handling

#### **Final Waste Form Descriptors**

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.6    | 0.0   | 0.6   |
|                    |        |       |       |

Final Form Total 0.6 0.0 0.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 120.66                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 486.67                        |
| Other Inorganic Materials      | 23.81                         |
| Cellulosics                    | 0.79                          |
| Rubber                         | 0.00                          |
| Plastics                       | 15.87                         |
| Solidified, Inorganic Matrix   | 27.78                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.04E-03                            |
| Cs-137  | 3.14E-02                            |
| Pu-238  | 2.60E-03                            |
| Pu-239  | 1.01E-03                            |
| Pu-240  | 1.00E-03                            |
| Pu-241  | 3.22E-02                            |
| Sr-90   | 1.20E-02                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W638 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W638 Stream Name 325 MTRU CH heterogeneous S5420 Mixed RCRA w/ org
Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| Standard Waste Box   | 3.8    | 0.0   | 3.8   |
| As-Generated Total   | 4.0    | 0.0   | 4.0   |

| Final Form Volumes |        |       |       |  |  |
|--------------------|--------|-------|-------|--|--|
| ContainerType      | Stored | Proj. | Total |  |  |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |  |  |
| Standard Waste Box | 3.8    | 0.0   | 3.8   |  |  |

**Final Form Total** 4.0 0.0 4.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 227.11                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.76                          |
| Other Inorganic Materials      | 449.26                        |
| Cellulosics                    | 4.79                          |
| Rubber                         | 0.42                          |
| Plastics                       | 10.15                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 152.80                        |
| Packaging Material, Plastic    | 3.07                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.35E-03                            |
| Cs-137  | 8.98E-02                            |
| Pu-238  | 4.17E-03                            |
| Pu-239  | 1.56E-03                            |
| Pu-240  | 1.48E-03                            |
| Pu-241  | 1.89E-01                            |
| Pu-242  | 1.09E-06                            |
| Sr-90   | 1.52E-01                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W639 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W639 Stream Name 325 MTRU CH heterogeneous S5420 Mixed RCRA w/ met

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |  |
|----------------------|--------------------|--------|-------|-------|--|
| ContainerType        |                    | Stored | Proj. | Total |  |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |  |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |  |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |  |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 423.81                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 44.60                         |
| Other Inorganic Materials      | 64.62                         |
| Cellulosics                    | 39.84                         |
| Rubber                         | 1.59                          |
| Plastics                       | 66.51                         |
| Solidified, Inorganic Matrix   | 7.30                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.10E-03                            |
| Pu-238  | 6.77E-04                            |
| Pu-239  | 2.54E-02                            |
| Pu-240  | 5.69E-03                            |
| Pu-241  | 8.40E-02                            |
| Pu-242  | 3.43E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### Appendix J **RL-W640** TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W640          | Stream Name | 325 MTI | RU CH heterogeneous S5420 Mixed RCRA w/ met,Hg |                           |               | Inventory Date 9         | 9/30/2002 | - |
|----------|------------------|-------------|---------|--|---------------------------|---------------|--------------------------|-----------|---|
| Local ID | N/A              | Handling    | СН      | Final Waste Form Heterogeneous Debris          | Waste Matrix Code S5420   | Activity Cond | centrations Decayed to 0 | CY 2002   |   |
| Final Wa | ste Form Descrin | tors        |         |  | Waste Material Parameters |               | Final Form Radionuc      | lides     |   |

### Wa

Category: Defense TRU Waste

Waste Stream ID:

| As-Generated Volumes |         |        |       |       |
|----------------------|---------|--------|-------|-------|
| ContainerType        |         | Stored | Proj. | Total |
| 55 Gallon Drum       |         | 0.2    | 0.0   | 0.2   |
| As-Generated         | l Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |         |        |       |       |
| ContainerType        |         | Stored | Proj. | Total |
| 55 Gallon Drum       |         | 0.2    | 0.0   | 0.2   |
| Final Form           | Total   | 0.2    | 0.0   | 0.2   |

Source: R&D/R&D Laboratory Waste

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 240.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 24.00                         |
| Rubber                         | 12.00                         |
| Plastics                       | 28.80                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.24E-01                            |
| Pu-238  | 6.78E-02                            |
| Pu-239  | 2.57E+00                            |
| Pu-240  | 5.75E-01                            |
| Pu-241  | 8.09E+00                            |
| Pu-242  | 3.46E-05                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# RL-W641 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W641 Stream Name 325 TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 5.5    | 0.0   | 5.5   |
|                      | As-Generated Total | 5.5    | 0.0   | 5.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 5.5    | 0.0   | 5.5   |
|                    | Final Form Total | 5.5    | 0.0   | 5.5   |

#### **Waste Material Parameters**

| age<br>sity<br>m3) |
|--------------------|
| 00.00              |
| 36.26              |
| 0.00               |
| 49.83              |
| 35.00              |
| 33.57              |
| 10.45              |
| 83.46              |
| 2.74               |
| 0.00               |
| 0.00               |
| 0.00               |
| 0.00               |
| 31.00              |
| 37.00              |
| 0.00               |
| 0.00               |
| (                  |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 4.18E-01                            |  |  |  |  |
| Cs-137  | 9.80E-02                            |  |  |  |  |
| Pu-238  | 5.72E-01                            |  |  |  |  |
| Pu-239  | 4.75E-01                            |  |  |  |  |
| Pu-240  | 1.96E-01                            |  |  |  |  |
| Pu-241  | 5.00E+00                            |  |  |  |  |
| Pu-242  | 3.32E-05                            |  |  |  |  |
| Sr-90   | 1.70E-01                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W642 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W642 Stream Name 325 MTRU CH heterogeneous S5440 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.7    | 0.0   | 1.7   |
|                      | As-Generated Total | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.7    | 0.0   | 1.7   |
|                    | Final Form Total | 1.7    | 0.0   | 1.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1416.29                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 52.04                         |
| Other Inorganic Materials      | 9.10                          |
| Cellulosics                    | 5.12                          |
| Rubber                         | 8.93                          |
| Plastics                       | 47.26                         |
| Solidified, Inorganic Matrix   | 6.63                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.72E-02                            |
| Cs-137  | 6.34E-01                            |
| Pu-238  | 1.93E-04                            |
| Pu-239  | 1.88E-02                            |
| Pu-240  | 9.67E-05                            |
| Pu-241  | 7.03E-03                            |
| Pu-242  | 4.60E-08                            |
| Sr-90   | 1.14E+00                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### **RL-W643** Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W643          | Stream Name 325 | 5 MTRU CH heterogeneous S5440 Mixed RCRA w | / org,met,H | g                         |              | Inventory         | Date 9/30/2002 |
|----------|------------------|-----------------|--|-------------|---------------------------|--------------|-------------------|----------------|
| Local ID | N/A              | Handling (      | CH Final Waste Form Heterogeneous D        | ebris       | Waste Matrix Code S5440   | Activity Con | centrations Decay | yed to CY 2002 |
|          | ste Form Descrip |                 |  |             | Waste Material Parameters |              | Final Form Rac    | dionuclides    |
| Catoo    | ory: Defense TF  | RU Waste Source | ce: R&D/R&D Laboratory Waste               |             |                           | Average      |                   | Typical        |
| Cale     | 30. y. = 0.0     |                 | ,  |             |                           | Density      |                   | Concentration  |

### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 1.7    | 0.0   | 1.    |
| As-Generated Total   | 1.7    | 0.0   | 1.7   |
| Final Form Volumes   |        |       |       |
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 1.7    | 0.0   | 1.1   |

| Stored | Proj. | Total |
|--------|-------|-------|
| 1.7    | 0.0   | 1.7   |

Final Form Total 0.0 1.7

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1411.88                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 43.12                         |
| Other Inorganic Materials      | 17.33                         |
| Cellulosics                    | 9.54                          |
| Rubber                         | 0.83                          |
| Plastics                       | 53.26                         |
| Solidified, Inorganic Matrix   | 5.59                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.18E-01                            |
| Cs-137  | 9.80E-02                            |
| Pu-238  | 5.72E-01                            |
| Pu-239  | 4.75E-01                            |
| Pu-240  | 1.96E-01                            |
| Pu-241  | 5.00E+00                            |
| Pu-242  | 3.32E-05                            |
| Sr-90   | 1.70E-01                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

### Waste Stream ID: RL-W644

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W644 Stream Name 325 MTRU CH heterogen                             | eous S544  | 0 Mixed F | RCRA w/ org |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5440      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 1714.29                       | Cs-137     | 6.35E-01                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-239     | 6.54E-02                            |
| 55 Gallon Drum  | 0.8        |           |             | Other Metal/Alloys           | 100.92                        | Sr-90      | 2.40E+00                            |
|   |            |           |             | Other Inorganic Materials    | 3.21                          |            | •                                   |
| As-Generated Total  | 8.0        | 0.0       | 8.0         | Cellulosics                  | 16.19                         |            |                                     |
| Final Form Volumes  |            |           |             | Rubber                       | 0.00                          |            |                                     |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 122.85                        |            |                                     |
| 55 Gallon Drum  | 0.8        | 0.0       | 0.8         | Solidified, Inorganic Matrix | 1.19                          |            |                                     |
|   | l          |           |             | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 8.0        | 0.0       | 8.0         | Vitrified                    | 0.00                          |            |                                     |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |            |           |             | Soils                        | 0.00                          |            |                                     |
|   |            |           |             | Packaging Material, Steel    | 131.00                        |            |                                     |
|   |            |           |             | Packaging Material, Plastic  | 37.00                         |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# RL-W645 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W645 Stream Name 325 MTRU CH heterogeneous S5440 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 212.96                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 40.50                         |
| Other Inorganic Materials      | 36.62                         |
| Cellulosics                    | 31.90                         |
| Rubber                         | 20.86                         |
| Plastics                       | 78.47                         |
| Solidified, Inorganic Matrix   | 5.80                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.62E-03                            |
| Pu-238  | 2.94E-03                            |
| Pu-239  | 7.33E-02                            |
| Pu-240  | 1.74E-02                            |
| Pu-241  | 3.12E-01                            |
| Pu-242  | 9.72E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W646 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W646 Stream Name 325 MTRU CH heterogeneous S5440 Mixed RCRA w/ met,Hg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 85.76                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 49.51                         |
| Other Inorganic Materials      | 14.66                         |
| Cellulosics                    | 29.87                         |
| Rubber                         | 20.69                         |
| Plastics                       | 9.52                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| · mai i oim it | adionaonaes                         |
|----------------|-------------------------------------|
| Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| Am-241         | 3.37E-02                            |
| Cs-137         | 8.92E-02                            |
| Pu-238         | 9.19E-03                            |
| Pu-239         | 6.14E-02                            |
| Pu-240         | 3.01E-02                            |
| Pu-241         | 5.32E-01                            |
| Sr-90          | 1.35E-01                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W647 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W647 Stream Name 325 MTRU CH heterogeneous S5440 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |  |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 81.83                         |
| Other Inorganic Materials      | 24.23                         |
| Cellulosics                    | 9.37                          |
| Rubber                         | 14.17                         |
| Plastics                       | 120.88                        |
| Solidified, Inorganic Matrix   | 0.02                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 1.71E-01                            |
| 2.75E+00                            |
| 5.23E-01                            |
| 8.33E-02                            |
| 3.56E+00                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W648 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W648 Stream Name 325 MTRU CH heterogeneous S5900 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |  |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 65.41                         |
| Other Inorganic Materials      | 87.93                         |
| Cellulosics                    | 1.82                          |
| Rubber                         | 0.00                          |
| Plastics                       | 73.42                         |
| Solidified, Inorganic Matrix   | 0.42                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.28E-03                            |
| Cs-137  | 1.07E-01                            |
| Pu-238  | 4.70E-03                            |
| Pu-239  | 2.86E-04                            |
| Pu-240  | 5.66E-04                            |
| Pu-241  | 1.14E-01                            |
| Sr-90   | 2.15E-01                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W649 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W649 Stream Name 325 MTRU CH heterogeneous S5900 Mixed RCRA w/ org

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 1.9    | 0.0   | 1.9   |
|                      | As-Generated Total | 1.9    | 0.0   | 1.9   |

| Final Form Volumes |                  |        |       |       |  |
|--------------------|------------------|--------|-------|-------|--|
| ContainerType      |                  | Stored | Proj. | Total |  |
| Standard Waste Box |                  | 1.9    | 0.0   | 1.9   |  |
|                    | Final Form Total | 1.9    | 0.0   | 1.9   |  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 175.26                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.78                          |
| Other Inorganic Materials      | 360.00                        |
| Cellulosics                    | 2.10                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.74                          |
| Solidified, Inorganic Matrix   | 0.01                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| T IIIdi T OITII Itaaioilaciiaci |                                     |  |  |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |
| Am-241                          | 5.20E-04                            |  |  |  |  |  |
| Cs-137                          | 4.37E-02                            |  |  |  |  |  |
| Pu-238                          | 1.91E-03                            |  |  |  |  |  |
| Pu-239                          | 1.16E-04                            |  |  |  |  |  |
| Pu-240                          | 2.30E-04                            |  |  |  |  |  |
| Pu-241                          | 4.62E-02                            |  |  |  |  |  |
| Sr-90                           | 8.73E-02                            |  |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

0.00

Packaging Material, Steel Plug

### Waste Stream ID: RL-W653

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W653 Stream Name 325 MTRU CH Pb/Cd metal                               | I X7219 N | Mixed RCI | RA w/ met  |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-----------|-----------|------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste  | e Form L  | ead/Cadr  | mium Metal | Waste Matrix Code X7219      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |           |           |            | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Laborator  Waste Volume Detail (m3) | ry Waste  |           |            | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |           |           |            | Iron-Base Metal/Alloys       | 1030.07                       | Am-241     | 1.78E-04                            |
|   | Stored    | Proj.     | Total      | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 6.18E-05                            |
| 55 Gallon Drum  | 0.4       | 0.0       |            | Other Metal/Alloys           | 1.90                          | Pu-239     | 2.30E-03                            |
|   |           |           |            | Other Inorganic Materials    | 0.00                          | Pu-240     | 5.15E-04                            |
| As-Generated Total  | 0.4       | 0.0       | 0.4        | Cellulosics                  | 0.00                          | Pu-241     | 7.98E-03                            |
| Final Form Volumes  |           |           |            | Rubber                       | 0.00                          | Pu-242     | 3.10E-08                            |
|   | Stored    | Proj.     | Total      | Plastics                     | 4.76                          |            |                                     |
| 55 Gallon Drum  | 0.4       | 0.0       |            | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|   |           |           |            | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.4       | 0.0       | 0.4        | Vitrified                    | 0.00                          |            |                                     |
|   |           |           |            | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |           |           |            | Soils                        | 0.00                          |            |                                     |
|   |           |           |            | Packaging Material, Steel    | 131.00                        |            |                                     |
|   |           |           |            | Packaging Material, Plastic  | 37.00                         |            |                                     |
|   |           |           |            | Packaging Material, Lead     | 0.00                          |            |                                     |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W654** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325 MTRU CH Pb/Cd metal X7219 Mixed RCRA w/ met,Hg HQ ID RL-W654 Inventory Date 9/30/2002 N/A CH Waste Matrix Code X7219 Activity Concentrations Decayed to CY 2002 Local ID Handling Final Waste Form Lead/Cadmium Metal

**Final Waste Form Descriptors** 

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total 0.2 0.0 0.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 127.62                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 30.38                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.19                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.09E-03                            |
| Pu-238  | 6.75E-04                            |
| Pu-239  | 2.53E-02                            |
| Pu-240  | 5.67E-03                            |
| Pu-241  | 8.38E-02                            |
| Pu-242  | 3.42E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# RL-W655 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W655 Stream Name 325 TRU CH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 1.5    | 0.0   | 1.5   |
|                      | As-Generated Total | 1.5    | 0.0   | 1.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 1.5    | 0.0   | 1.5   |
|                    | Final Form Total | 1.5    | 0.0   | 1.5   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 29.34                         |
| Other Inorganic Materials      | 20.90                         |
| Cellulosics                    | 3.64                          |
| Rubber                         | 6.36                          |
| Plastics                       | 20.02                         |
| Solidified, Inorganic Matrix   | 213.14                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.56E+01                            |
| Pu-238  | 2.31E+01                            |
| Pu-239  | 1.45E-01                            |
| Pu-240  | 3.44E-01                            |
| Pu-241  | 3.23E+03                            |
| Pu-242  | 1.85E-06                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# RL-W656 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W656 Stream Name 325 TRU CH solidified inorganic S3150 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3150 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 3.1    | 0.0   | 3.1   |
|                      | As-Generated Total | 3.1    | 0.0   | 3.1   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 3.1    | 0.0   | 3.1   |
|                    | Final Form Total | 3.1    | 0.0   | 3.1   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 36.66                         |
| Other Inorganic Materials      | 0.58                          |
| Cellulosics                    | 0.96                          |
| Rubber                         | 1.73                          |
| Plastics                       | 30.51                         |
| Solidified, Inorganic Matrix   | 792.57                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.16                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.80E+01                            |
| Pu-238  | 4.84E+00                            |
| Pu-239  | 1.59E-01                            |
| Pu-240  | 1.65E-01                            |
| Pu-241  | 7.19E+03                            |
| Pu-242  | 5.08E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W657 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W657 Stream Name 325 TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 5.4    | 0.0   | 5.4   |
| Standard Waste Box   | 9.4    | 0.0   | 9.4   |
| As-Generated Total   | 14.9   | 0.0   | 14.9  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 5.4    | 0.0   | 5.4   |
| Standard Waste Box | 9.4    | 0.0   | 9.4   |

**Final Form Total** 14.9 0.0 14.9

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 251.37                        |
| Other Inorganic Materials      | 2.44                          |
| Cellulosics                    | 5.58                          |
| Rubber                         | 2.10                          |
| Plastics                       | 18.45                         |
| Solidified, Inorganic Matrix   | 0.27                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 145.63                        |
| Packaging Material, Plastic    | 14.23                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.41E+01                            |
| Pu-238  | 1.50E+00                            |
| Pu-239  | 1.64E-02                            |
| Pu-240  | 3.30E-02                            |
| Pu-241  | 6.67E+02                            |
| Pu-242  | 3.70E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W658 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W658 | Stream Name | 325 MTF | RU RH inorganic non-metal S5121 M | lixed RCRA w/ org | <u> </u>                |               | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|-----------------------------------|-------------------|-------------------------|---------------|------------------------|-----------|
| Local ID | N/A     | Handling    | RH      | Final Waste Form Inorganic        | Non-Metal         | Waste Matrix Code S5121 | Activity Cond | centrations Decayed to | CY 2002   |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.9    | 42.7  | 43.6  |
|                      | As-Generated Total | 0.9    | 42.7  | 43.6  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 42.7  | 43.6  |
|                    | Final Form Total | 0.9    | 42.7  | 43.6  |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 67.42                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.58                          |
| Other Inorganic Materials      | 759.45                        |
| Cellulosics                    | 1.51                          |
| Rubber                         | 0.00                          |
| Plastics                       | 3.52                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.31E-02                            |
| Cs-137  | 1.93E+00                            |
| Pu-238  | 8.48E-02                            |
| Pu-239  | 5.17E-03                            |
| Pu-240  | 1.02E-02                            |
| Pu-241  | 2.05E+00                            |
| Sr-90   | 3.87E+00                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

### Waste Stream ID: RL-W659

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W659           | Stream Name 325 TRU CH inorganic no | on-metal S | 5190 Non-   | mixed     |                              |                               | Invent          | ory Date 9/30/2002                  |
|----------|-------------------|-------------------------------------|------------|-------------|-----------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | N/A               | Handling CH Final Wa                | ste Form   | Inorganic I | Non-Metal | Waste Matrix Code S5190      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa | aste Form Descrip | otors                               |            |             |           | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
|          | gory: Defense Ti  |                                     | tory Waste | •           |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-G     | enerated Volumes  |                                     |            |             |           | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 6.72E+01                            |
|          | ainerType         | •                                   | Stored     | Proj.       | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 1.21E+01                            |
|          | allon Drum        |                                     | 0.4        |             |           | Other Metal/Alloys           | 33.65                         | Pu-239          | 1.13E-01                            |
| 00 00    |                   |                                     | <u> </u>   | 0.0         | <u> </u>  | Other Inorganic Materials    | 24.75                         | Pu-240          | 1.41E-01                            |
|          |                   | As-Generated Total                  | 0.4        | 0.0         | 0.4       | Cellulosics                  | 2.40                          | Pu-241          | 2.69E+03                            |
| Final    | Form Volumes      |                                     |            |             |           | Rubber                       | 6.01                          | Pu-242          | 5.03E-09                            |
|          | ainerType         |                                     | Stored     | Proj.       | Total     | Plastics                     | 1.93                          |                 |                                     |
|          | allon Drum        |                                     | 0.4        |             |           | Solidified, Inorganic Matrix | 0.00                          |                 |                                     |
| 00 00    | mon Bram          |                                     | 0.4        | 0.0         | 0.4       | Cement (Solidified)          | 0.00                          |                 |                                     |
|          |                   | Final Form Total                    | 0.4        | 0.0         | 0.4       | Vitrified                    | 0.00                          |                 |                                     |
|          |                   |                                     |            |             | ·         | Solidified, Organic Matrix   | 0.00                          |                 |                                     |

Soils

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

131.00

37.00

0.00

0.00

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

# Waste Stream ID: RL-W660 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W660 Stream Name 325 TRU CH combustible S5319 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 2.1    | 0.0   | 2.1   |
|                      | As-Generated Total | 2.1    | 0.0   | 2.1   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 2.1    | 0.0   | 2.1   |
|                    |        |       |       |

Final Form Total

2.1

0.0

2.1

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 31.67                         |
| Other Inorganic Materials      | 5.14                          |
| Cellulosics                    | 2.40                          |
| Rubber                         | 16.76                         |
| Plastics                       | 157.26                        |
| Solidified, Inorganic Matrix   | 7.88                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.97E+01                            |
| Pu-238  | 2.91E+01                            |
| Pu-239  | 4.17E-01                            |
| Pu-240  | 7.49E-01                            |
| Pu-241  | 3.07E+03                            |
| Pu-242  | 1.38E-06                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W661 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W661 Stream Name 325 TRU CH combustible S5330 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5330 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.94                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 109.62                        |
| Rubber                         | 4.79                          |
| Plastics                       | 49.51                         |
| Solidified, Inorganic Matrix   | 94.22                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| i iliai i ci ili Naalollaollaco |                                     |  |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                          | 5.71E+00                            |  |  |  |  |
| Pu-238                          | 3.64E-01                            |  |  |  |  |
| Pu-239                          | 2.01E-03                            |  |  |  |  |
| Pu-240                          | 1.84E-02                            |  |  |  |  |
| Pu-241                          | 3.73E+02                            |  |  |  |  |
| Pu-242                          | 1.64E-08                            |  |  |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W662 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325 TRU CH combustible S5390 Non-mixed Inventory Date 9/30/2002 HQ ID RL-W662 N/A CH Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002 Local ID Handling Final Waste Form Combustible **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 0.2    | 0.0   | 0.2   |
| As-Generated Total   | 0.2    | 0.0   | 0.2   |
|                      |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 37.01                         |
| Other Inorganic Materials      | 4.79                          |
| Cellulosics                    | 52.89                         |
| Rubber                         | 9.63                          |
| Plastics                       | 38.47                         |
| Solidified, Inorganic Matrix   | 19.73                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.21E-01                            |
| Pu-238  | 2.17E-02                            |
| Pu-239  | 5.14E-04                            |
| Pu-240  | 9.27E-04                            |
| Pu-241  | 7.66E+00                            |
| Pu-242  | 4.49E-09                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

#### Waste Stream ID: **RL-W663**

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W663           | Stream Nam | <b>e</b> 325 TF | RU RH heterogeneous S5420 Non-mixed |          |                           |              | Inventor             | y Date 9/30/2002 |
|----------|-------------------|------------|-----------------|-------------------------------------|----------|---------------------------|--------------|----------------------|------------------|
| Local ID | N/A               | Handlir    | g RH            | Final Waste Form Heterogeneous      | s Debris | Waste Matrix Code S5420   | Activity Con | -<br>centrations Dec | ayed to CY 2002  |
| '        |                   |            |                 | <u> </u>                            |          |                           |              |                      |                  |
| Final Wa | iste Form Descrip | tors       |                 |                                     |          | Waste Material Parameters |              | Final Form R         | adionuclides     |
| Categ    | gory: Defense TF  | RU Waste   | Source:         | R&D/R&D Laboratory Waste            |          |                           | Average      |                      | Typical          |
|          | · · <u> </u>      | ·          |                 |                                     |          |                           | Density      |                      | Concentration    |

16.0

16.0

16.0

16.0

0.0

0.0

#### Waste Volume Detail (m3)

**RH** Canister

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 16.0   | 0.0   | 16.0  |
|                      | As-Generated Total | 16.0   | 0.0   | 16.0  |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |

Final Form Total

| Aluminum-Base Metal/Alloys |  |
|----------------------------|--|
| Other Metal/Alloys         |  |
| Other Inorganic Materials  |  |
| Cellulosics                |  |
| Rubber                     |  |

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

**Material Parameter** 

Iron-Base Metal/Alloys

#### 245.11 121.24 7.77 8.54 Plastics 31.04 Solidified, Inorganic Matrix 6.64 Cement (Solidified) 0.00 Vitrified 0.00 Solidified, Organic Matrix 0.00 Soils 0.00 Packaging Material, Steel 434.00

(kg/m3)

353.21 0.00

0.00

464.00 0.00

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 4.25E+01                            |  |  |
| Cs-137  | 5.04E+00                            |  |  |
| Pu-238  | 6.78E+00                            |  |  |
| Pu-239  | 3.80E-01                            |  |  |
| Pu-240  | 4.90E-01                            |  |  |
| Pu-241  | 2.13E+03                            |  |  |
| Pu-242  | 2.44E-04                            |  |  |
| Sr-90   | 3.07E+00                            |  |  |
| U-235   | 6.61E-06                            |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

# Waste Stream ID: RL-W664 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W664 Stream Name 325 MTRU RH heterogeneous S5420 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 2.7    | 0.0   | 2.7   |
|                      | As-Generated Total | 2.7    | 0.0   | 2.7   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 2.7    | 0.0   | 2.7   |
|                    | Final Form Total | 2.7    | 0.0   | 2.7   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 143.45                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 21.44                         |
| Other Inorganic Materials      | 246.67                        |
| Cellulosics                    | 4.12                          |
| Rubber                         | 0.10                          |
| Plastics                       | 16.67                         |
| Solidified, Inorganic Matrix   | 0.23                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|---------|-------------------------------------|--|--|--|
| Am-241  | 5.29E-03                            |  |  |  |
| Cs-137  | 4.44E-01                            |  |  |  |
| Pu-238  | 1.95E-02                            |  |  |  |
| Pu-239  | 1.18E-03                            |  |  |  |
| Pu-240  | 2.34E-03                            |  |  |  |
| Pu-241  | 4.70E-01                            |  |  |  |
| Sr-90   | 6.30E-01                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

#### **Management Comments**

HQ ID RL-W665 Stream Name 325 TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 8.5    | 0.0   | 8.5   |
|                      | As-Generated Total | 8.5    | 0.0   | 8.5   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 8.5    | 0.0   | 8.5   |
|                    | Final Form Total | 8.5    | 0.0   | 8.5   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 5.94                          |
| Aluminum-Base Metal/Alloys     | 0.23                          |
| Other Metal/Alloys             | 81.79                         |
| Other Inorganic Materials      | 39.32                         |
| Cellulosics                    | 30.66                         |
| Rubber                         | 15.15                         |
| Plastics                       | 60.91                         |
| Solidified, Inorganic Matrix   | 59.31                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 1.13                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| T III at T Offin Madionacia |                                     |  |  |  |
|-----------------------------|-------------------------------------|--|--|--|
| Isotope                     | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                      | 4.75E+01                            |  |  |  |
| Pu-238                      | 4.23E+01                            |  |  |  |
| Pu-239                      | 1.54E-01                            |  |  |  |
| Pu-240                      | 2.07E-01                            |  |  |  |
| Pu-241                      | 3.70E+03                            |  |  |  |
| Pu-242                      | 1.37E-06                            |  |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W666 Stream Name 325 TRU CH heterogeneo                            | ous S5900  | Non-mixe  | d           |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5900      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 7.58E+00                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 6.07E-01                            |
| 55-Gallon Drum  | 1.5        |           |             | Other Metal/Alloys           | 78.10                         | Pu-239     | 3.77E-02                            |
| 00 04.10.1 214.11   |            |           |             | Other Inorganic Materials    | 13.85                         | Pu-240     | 4.00E-02                            |
| As-Generated Total  | 1.5        | 0.0       | 1.5         | Cellulosics                  | 15.81                         | Pu-241     | 3.14E+02                            |
| Final Form Volumes  |            |           |             | Rubber                       | 16.19                         | Pu-242     | 2.75E-08                            |
| ContainerType   | Stored     | Proj.     | Total       | Plastics                     | 26.25                         |            |                                     |
| 55-Gallon Drum  | 1.5        | 0.0       | 1.5         | Solidified, Inorganic Matrix | 111.47                        |            |                                     |
|   | L          |           |             | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 1.5        | 0.0       | 1.5         | Vitrified                    | 0.00                          |            |                                     |
|   |            |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |            |           |             | Soils                        | 0.00                          |            |                                     |
|   |            |           |             | Packaging Material, Steel    | 131.00                        |            |                                     |
|   |            |           |             | Packaging Material, Plastic  | 37.00                         |            |                                     |

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the RADIOCHEMISTRY BUILDING.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W668 Stream Name 325A MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met,Hg |   |            |           |             |                              |                               |                | ory Date 9/30/2002                  |
|---|---|------------|-----------|-------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID  | N/A Handling CH Final Wa                                    | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5420      | Activity Cor                  | centrations De | ecayed to CY 2002                   |
| Final Wa  | ste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
|   | Defense TRU Waste Source: R&D/R&D Labora  Dlume Detail (m3) | tory Waste |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge   | nerated Volumes   |            |           |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241         | 5.87E-02                            |
|   | inerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137         | 1.17E-01                            |
|   | lon Drum  | 0.2        |           |             | Other Metal/Alloys           | 14.29                         | Pu-238         | 6.51E-04                            |
|   |   |            |           |             | Other Inorganic Materials    | 95.24                         | Pu-239         | 3.39E-03                            |
|   | As-Generated Total  | 0.2        | 20.2      | 20.4        | Cellulosics                  | 66.67                         | Pu-240         | 9.70E-04                            |
| Final F   | Form Volumes  |            |           |             | Rubber                       | 0.00                          | Pu-241         | 2.53E-02                            |
|   | inerType  | Stored     | Proj.     | Total       | Plastics                     | 9.52                          | Sr-90          | 1.11E+00                            |
|   | lon Drum  | 0.2        | 20.2      | 20.4        | Solidified, Inorganic Matrix | 9.52                          |                |                                     |
| 00 001  | on Bruin  | U.2        | 20.2      | 20.4        | Cement (Solidified)          | 0.00                          |                |                                     |
|   | Final Form Total  | 0.2        | 20.2      | 20.4        | Vitrified                    | 0.00                          |                |                                     |
|   |   |            | •         |             | Solidified, Organic Matrix   | 0.00                          |                |                                     |

Soils

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

0.00

131.00

37.00

0.00

0.00

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

# Waste Stream ID: RL-W669 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W669 Stream Name 325A MTRU CH heterogeneous S5440 Mixed RCRA w/ org,met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 1.3    | 0.0   | 1.3   |
|                      | As-Generated Total | 1.3    | 0.0   | 1.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 17.06                         |
| Other Inorganic Materials      | 45.24                         |
| Cellulosics                    | 44.05                         |
| Rubber                         | 2.38                          |
| Plastics                       | 19.05                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

|         | Typical<br>Concentration |
|---------|--------------------------|
| Isotope | (Ci/m3)                  |
| Am-241  | 4.18E-01                 |
| Cs-137  | 9.80E-02                 |
| Pu-238  | 5.72E-01                 |
| Pu-239  | 4.75E-01                 |
| Pu-240  | 1.96E-01                 |
| Pu-241  | 5.00E+00                 |
| Pu-242  | 3.32E-05                 |
| Sr-90   | 1.70E-01                 |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

# Waste Stream ID: RL-W670 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W670 Stream Name 325A MTRU CH heterogeneous \$5900 Mixed RCRA w/ org,met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code \$5900 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

Final Form Total

0.2

0.0

0.2

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 2.38                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 204.76                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 97.62                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.21E-01                            |
| Cs-137  | 4.37E-01                            |
| Pu-238  | 2.44E-03                            |
| Pu-239  | 1.28E-02                            |
| Pu-240  | 3.65E-03                            |
| Pu-241  | 9.51E-02                            |
| Sr-90   | 3.97E+00                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W671** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 325A TRU CH uncategorized metal S5119 Non-mixed HQ ID RL-W671 Inventory Date 9/30/2002 N/A Handling CH Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002 Local ID Final Waste Form Uncategorized Metal **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Source: R&D/R&D Laboratory Waste Defense TRU Waste

### Waste Volume Detail (m3)

Category:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 9.4    | 0.0   | 9.4   |
|                      | As-Generated Total | 9.4    | 0.0   | 9.4   |
| Final Form Volumes   |                    |        |       |       |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 9.4    | 0.0   | 9.4   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 149.87                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 53.62                         |
| Other Inorganic Materials      | 16.80                         |
| Cellulosics                    | 47.94                         |
| Rubber                         | 0.00                          |
| Plastics                       | 8.22                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| mai i omi itaaionaonao |                                     |  |  |
|------------------------|-------------------------------------|--|--|
| Isotope                | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                 | 5.72E-01                            |  |  |
| Pu-238                 | 2.78E-02                            |  |  |
| Pu-239                 | 5.20E-04                            |  |  |
| Pu-240                 | 5.44E-04                            |  |  |
| Pu-241                 | 6.95E+00                            |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

# Waste Stream ID: RL-W672 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W672 Stream Name 325A TRU CH combustible S5390 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 9.4    | 0.0   | 9.4   |
|                      | As-Generated Total | 9.4    | 0.0   | 9.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 9.4    | 0.0   | 9.4   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 27.89                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 152.15                        |
| Rubber                         | 6.88                          |
| Plastics                       | 80.32                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 3.88E+00                            |
| 1.89E-01                            |
| 3.54E-03                            |
| 3.69E-03                            |
| 4.72E+01                            |
|                                     |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

# Waste Stream ID: RL-W673 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

49.1

0.0

49.1

HQ ID RL-W673 Stream Name 325A TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 49.1   | 0.0   | 49.1  |
|                      | As-Generated Total | 49.1   | 0.0   | 49.1  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 49.1   | 0.0   | 49.1  |
|                    |        |       |       |

Final Form Total

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.57                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 168.19                        |
| Other Inorganic Materials      | 43.34                         |
| Cellulosics                    | 48.83                         |
| Rubber                         | 0.00                          |
| Plastics                       | 24.87                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| • | man i oim it | aaionaonacs                         |
|---|--------------|-------------------------------------|
| I | sotope       | Typical<br>Concentration<br>(Ci/m3) |
| / | Am-241       | 7.21E-01                            |
| ( | Cs-137       | 3.74E-01                            |
| F | Pu-238       | 3.51E-02                            |
| F | Pu-239       | 6.59E-04                            |
| F | Pu-240       | 6.86E-04                            |
| F | Pu-241       | 8.76E+00                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CESIUM RECOVERY FAC.

### **Management Comments**

HQ ID RL-W674 Stream Name 327 TRU CH Pb/Cd metal S5112 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code S5112 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 4.4    | 0.4   | 4.8   |
| Standard Waste Box   | 0.0    | 13.3  | 13.3  |
| As-Generated Total   | 4.4    | 13.7  | 18.1  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.4    | 0.4   | 4.8   |
| Standard Waste Box |                  | 0.0    | 13.3  | 13.3  |
|                    | Final Form Total | 4.4    | 13.7  | 18.1  |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 10674.50                      |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 147.87                        |
| Packaging Material, Plastic    | 10.74                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.95E-03                            |
| Pu-238  | 2.31E-03                            |
| Pu-239  | 3.35E-01                            |
| Pu-240  | 2.94E-03                            |
| Pu-241  | 9.01E-02                            |
| Pu-242  | 1.08E-06                            |
| U-235   | 5.34E-09                            |
| U-238   | 2.67E-06                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

#### **RL-W675** Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          |                   |           |          |  | _ |                           |          |        |                |                  |
|----------|-------------------|-----------|----------|--|---|---------------------------|----------|--------|----------------|------------------|
|          | DI 14/075         | 1         | 207.14   | EDITORI DI COLI IL LOSSAGOMI. IL DODA IL IL  |   |                           |          | 1      |                | - 0/00/0000      |
| HQ ID    | RL-W675           | Stream Na | me 327 M | TRU CH Pb/Cd metal S5112 Mixed RCRA w/ met   |   |                           |          |        | Inventor       | y Date 9/30/2002 |
| Local ID | N/A               | Handli    | ing CH   | Final Waste Form Lead/Cadmium Meta           | ı | Waste Matrix Code S5112   | Activity | Concer | ntrations Deca | ayed to CY 2002  |
|          | ste Form Descrip  |           |          |  |   | Waste Material Parameters |          |        | Final Form R   | adionuclides     |
| Categ    | ory: Defense TF   | RU Waste  | Source:  | Facility/Equipment Operation and Maintenance | 1 |                           | Average  |        |                | Typical          |
|          |                   |           |          | Waste  |   |                           | Density  |        |                | Concentration    |
| Waste V  | olume Detail (m3) | 1         |          |  | - | Material Parameter        | (kg/m3)  |        | Isotope        | (Ci/m3)          |
|          |                   |           |          |  |   |                           |          |        |                |                  |

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| 55 Gallon Drum       | 0.2    | 0.0   | 0.2   |
| As-Generated Total   | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 9985.71                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

# 1.80E+00

Am-241 Cs-137 9.64E+02 2.02E+00 Pu-238 Pu-239 6.23E-01 Pu-240 5.42E-01 Pu-241 3.48E+01 Pu-242 8.97E-04

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

HQ ID RL-W676 Stream Name 327 TRU CH inorganic non-metal S5121 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5121 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W676** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 4.4    | 0.0   | 4.4   |
|                      | As-Generated Total | 4.4    | 0.0   | 4.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.4    | 0.0   | 4.4   |
|                    | Final Form Total | 4.4    | 0.0   | 4.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 2718.68                       |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.78E-03                            |
| Cs-137  | 1.92E-02                            |
| Pu-238  | 5.79E-04                            |
| Pu-239  | 3.33E-02                            |
| Pu-240  | 4.88E-04                            |
| Pu-241  | 4.92E-02                            |
| Pu-242  | 5.50E-07                            |
| Sr-90   | 7.34E-03                            |
| U-235   | 1.01E-09                            |
| U-238   | 5.05E-07                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

HQ ID RL-W677 Stream Name 327 TRU CH heterogeneous S5420 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

**RL-W677** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |           |        |       |       |
|----------------------|-----------|--------|-------|-------|
| ContainerType        |           | Stored | Proj. | Total |
| 55 Gallon Drum       |           | 3.1    | 0.0   | 3.1   |
| As-Genera            | ted Total | 3.1    | 0.0   | 3.1   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 3.1    | 0.0   | 3.1   |
|                    | Final Form Total | 3.1    | 0.0   | 3.1   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7342.38                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 56.57                         |
| Other Inorganic Materials      | 4480.78                       |
| Cellulosics                    | 12.95                         |
| Rubber                         | 14.03                         |
| Plastics                       | 30.08                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.89                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.21E+01                            |  |  |
| Cs-137  | 1.46E+00                            |  |  |
| Pu-238  | 2.00E+00                            |  |  |
| Pu-239  | 1.82E+00                            |  |  |
| Pu-240  | 1.60E+00                            |  |  |
| Pu-241  | 1.66E+02                            |  |  |
| Pu-242  | 1.77E-03                            |  |  |
| Sr-90   | 5.58E-01                            |  |  |
| U-235   | 2.85E-05                            |  |  |
| U-238   | 1.09E-03                            |  |  |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

HQ ID RL-W678 Stream Name 327 MTRU CH heterogeneous S5420 Mixed RCRA w/ org,met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W678** 

Waste Stream ID:

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |
|                      | AS-Generated Total | 0.4    | 0.0   | 0     |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 891.67                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 8.33                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 5.71                          |
| Rubber                         | 0.00                          |
| Plastics                       | 90.71                         |
| Solidified, Inorganic Matrix   | 1.19                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.57E-02                            |
| Cs-137  | 1.35E+00                            |
| Pu-238  | 1.26E-01                            |
| Pu-239  | 1.23E-01                            |
| Pu-240  | 1.09E-01                            |
| Pu-241  | 9.77E+00                            |
| Pu-242  | 1.22E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

HQ ID RL-W679 Stream Name 327 MTRU CH heterogeneous S5420 Mixed State Reg

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Standard Waste Box   | 3.8    | 0.0   | 3.8   |
| As-Generated Total   | 3.8    | 0.0   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 3.8    | 0.0   | 3.8   |

### **Waste Material Parameters**

| Average<br>Density<br>(kg/m3) |
|-------------------------------|
| 0.00                          |
| 0.00                          |
| 269.16                        |
| 19.97                         |
| 18.39                         |
| 0.00                          |
| 11.99                         |
| 0.53                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 0.00                          |
| 154.00                        |
| 1.20                          |
| 0.00                          |
| 0.00                          |
|                               |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.97E-01                            |
| Cs-137  | 3.25E-04                            |
| Pu-238  | 3.11E-02                            |
| Pu-239  | 2.92E-02                            |
| Pu-240  | 2.59E-02                            |
| Pu-241  | 2.76E+00                            |
| Pu-242  | 2.92E-05                            |
| Sr-90   | 1.24E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W680 | Stream Name 3 | 27 TRU | CH heterogeneous S5440 Non-mixed      |                         |              | Inventory Date 9/30/20        | )02 |
|----------|---------|---------------|--------|---------------------------------------|-------------------------|--------------|-------------------------------|-----|
| Local ID | N/A     | Handling      | СН     | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5440 | Activity Con | centrations Decayed to CY 200 | 02  |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 312.38                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 125.71                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 210.00                        |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 10.76                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.51E-04                            |
| Cs-137  | 2.18E-02                            |
| Pu-238  | 7.93E-04                            |
| Pu-239  | 8.27E-05                            |
| Pu-240  | 1.50E-04                            |
| Pu-241  | 2.15E-02                            |
| Pu-242  | 6.18E-07                            |
| Sr-90   | 1.40E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

HQ ID RL-W681 Stream Name 327 MTRU CH heterogeneous S5440 Mixed RCRA w/ org

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

**RL-W681** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 0.2    | 0.0   | 0.2   |
|                    |        |       |       |

 Final Form Total
 0.2
 0.0
 0.2

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 23.81                         |
| Rubber                         | 0.00                          |
| Plastics                       | 33.33                         |
| Solidified, Inorganic Matrix   | 0.48                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |
|                                |                               |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.12E-04                            |
| Cs-137  | 1.45E-03                            |
| Pu-238  | 3.21E-04                            |
| Pu-239  | 2.23E-03                            |
| Pu-240  | 1.11E-03                            |
| Pu-241  | 1.78E-02                            |
| Pu-242  | 1.09E-07                            |
| Sr-90   | 6.95E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

#### **RL-W682** Waste Stream ID:

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W682          | Stream Name | 327 TRU | J RH Pb/Cd metal S5112 Non-mixed    |                           |              | Inventory Date 9/30/20       | 002 |
|----------|------------------|-------------|---------|-------------------------------------|---------------------------|--------------|------------------------------|-----|
| Local ID | N/A              | Handling    | RH      | Final Waste Form Lead/Cadmium Metal | Waste Matrix Code S5112   | Activity Con | centrations Decayed to CY 20 | ე02 |
| Final Wa | eta Farm Dasarin | tors        |         |                                     | Wasto Material Parameters |              | Final Form Padionuclidos     |     |

#### Final waste Form Descriptors

|           | •                 |  |
|-----------|-------------------|--|
| Category: | Defense TRU Waste | Facility/Equipment Operation and Maintenance |
|           |                   | Waste  |

### Waste Volume Detail (m3)

| As-Generated Volumes |                 |     |       |       |
|----------------------|-----------------|-----|-------|-------|
| ContainerType        | Sto             | red | Proj. | Total |
| RH Canister          |                 | 0.9 | 7.1   | 8.0   |
| Δς-                  | Generated Total | 0.9 | 7 1   | 8.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 7.1   | 8.0   |
|                    | Final Form Total | 0.9    | 7.1   | 8.0   |

### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 11902.28                      |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.91E+00                            |
| Cs-137  | 2.19E+03                            |
| Pu-238  | 5.38E-01                            |
| Pu-239  | 6.00E-01                            |
| Pu-240  | 5.68E-01                            |
| Pu-241  | 1.04E+01                            |
| Pu-242  | 3.82E-04                            |
| Sr-90   | 8.36E+02                            |
| U-235   | 1.09E-06                            |
| U-238   | 5.45E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W683 | Stream Name | 327 TR | U RH uncategorized metal S5119 Non-mixed |                         |               | Inventory Date 9/30/2002       |
|----------|---------|-------------|--------|--|-------------------------|---------------|--------------------------------|
| Local ID | N/A     | Handling    | RH     | Final Waste Form Uncategorized Metal     | Waste Matrix Code S5119 | Activity Cond | centrations Decayed to CY 2002 |
|          |         |             |        |  |                         |               |                                |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.9    | 0.0   | 0.9   |
|                      | As-Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 4232.25                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 9.33                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.23E+01                            |
| Cs-137  | 7.53E+03                            |
| Pu-238  | 7.59E+01                            |
| Pu-239  | 1.07E+02                            |
| Pu-240  | 7.33E+01                            |
| Pu-241  | 6.21E+03                            |
| Pu-242  | 7.05E-02                            |
| Sr-90   | 2.76E+03                            |
| U-234   | 3.81E-03                            |
| U-235   | 2.97E-03                            |
| U-236   | 2.30E-04                            |
| U-238   | 2.46E-03                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the POST IRRADIATION TEST LABORATORY.

### **Management Comments**

# Waste Stream ID: RL-W685 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W685 Stream Name 327C TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

### Waste Volume Detail (m3)

| As-Generated Volumes |            |     |       |       |
|----------------------|------------|-----|-------|-------|
| ContainerType        | Store      | ed  | Proj. | Total |
| 55 Gallon Drum       |            | 2.7 | 38.0  | 40.7  |
| Standard Waste Box   |            | 0.0 | 28.5  | 28.5  |
| As-Gener             | ated Total | 2.7 | 66.5  | 69.2  |

| Final Form Volumes |       |          |  |  |
|--------------------|-------|----------|--|--|
| Stored             | Proj. | Total    |  |  |
| 2.7                | 38.0  | 40.7     |  |  |
| 0.0                | 28.5  | 28.5     |  |  |
|                    | 2.7   | 2.7 38.0 |  |  |

**Final Form Total** 2.7 66.5 69.2

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 896.00                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.00                         |
| Other Inorganic Materials      | 380.00                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 140.47                        |
| Packaging Material, Plastic    | 22.26                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.46E-03                            |
| Pu-238  | 4.18E-04                            |
| Pu-239  | 1.59E-02                            |
| Pu-240  | 3.57E-03                            |
| Pu-241  | 4.79E-02                            |
| Pu-242  | 2.15E-07                            |

### **Waste Stream Description**

The waste is generated from Materials Production/Recovery Effluents activities at the POST IRRADIATION TEST LABORATORY C CELL.

### **Management Comments**

HQ ID RL-W686 Stream Name 327C TRU RH combustible S5319 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling RH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.9    | 0.0   | 0.9   |
|                      | As-Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1.89                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.38                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.38                          |
| Rubber                         | 0.00                          |
| Plastics                       | 4.53                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.71E-03                            |
| Cs-137  | 2.41E-01                            |
| Pu-238  | 5.51E-04                            |
| Pu-239  | 3.85E-03                            |
| Pu-240  | 1.92E-03                            |
| Pu-241  | 6.17E-02                            |
| Pu-242  | 5.64E-08                            |
| Sr-90   | 2.18E-01                            |

### **Waste Stream Description**

The waste is generated from Materials Production/Recovery Effluents activities at the POST IRRADIATION TEST LABORATORY C CELL.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W687** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 327C TRU RH heterogeneous S5420 Non-mixed HQ ID RL-W687 Inventory Date 9/30/2002 N/A RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002 Local ID Handling

### **Final Waste Form Descriptors**

Source: Materials Production/Recovery Effluents Category: Defense TRU Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| RH Canister          |                    | 0.9    | 0.0   | 0.9   |
|                      | As-Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

### **Waste Material Parameters**

| Tradio material i aramotoro    |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 7.85                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 8.87                          |
| Other Inorganic Materials      | 5.38                          |
| Cellulosics                    | 1.15                          |
| Rubber                         | 0.00                          |
| Plastics                       | 2.40                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |
|                                |                               |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.07E+00                            |
| Cs-137  | 8.83E+00                            |
| Pu-238  | 3.31E-01                            |
| Pu-239  | 2.32E+00                            |
| Pu-240  | 1.16E+00                            |
| Pu-241  | 3.60E+01                            |
| Pu-242  | 3.41E-05                            |
| Sr-90   | 7.99E+00                            |

### **Waste Stream Description**

The waste is generated from Materials Production/Recovery Effluents activities at the POST IRRADIATION TEST LABORATORY C CELL.

### **Management Comments**

# Waste Stream ID: RL-W688 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W688 Stream Name 327C TRU RH heterogeneous S5440 Non-mixed

Local ID N/A Handling RH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| RH Canister          |                   | 0.9    | 0.0   | 0.9   |
| A                    | s-Generated Total | 0.9    | 0.0   | 0.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| RH Canister        |                  | 0.9    | 0.0   | 0.9   |
|                    | Final Form Total | 0.9    | 0.0   | 0.9   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 43.79                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 21.71                         |
| Other Inorganic Materials      | 7.18                          |
| Cellulosics                    | 12.89                         |
| Rubber                         | 0.09                          |
| Plastics                       | 59.40                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 434.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i oriii itaaloriaciiaes |                                     |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                          | 4.17E+00                            |  |  |  |
| Cs-137                          | 2.07E+01                            |  |  |  |
| Pu-238                          | 1.30E+00                            |  |  |  |
| Pu-239                          | 9.11E+00                            |  |  |  |
| Pu-240                          | 4.53E+00                            |  |  |  |
| Pu-241                          | 1.42E+02                            |  |  |  |
| Pu-242                          | 1.34E-04                            |  |  |  |
| Sr-90                           | 1.87E+01                            |  |  |  |

### **Waste Stream Description**

The waste is generated from Materials Production/Recovery Effluents activities at the POST IRRADIATION TEST LABORATORY C CELL.

### **Management Comments**

HQ ID RL-W689 Stream Name 340 MTRU CH heterogeneous S5440 Mixed RCRA w/ org

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 5 Gallon Drum        |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 9.52                          |
| Rubber                         | 7.14                          |
| Plastics                       | 7.14                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 4.76                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.37E-02                            |
| Cs-137  | 1.75E-01                            |
| Pu-238  | 3.42E-03                            |
| Pu-239  | 1.84E-03                            |
| Pu-241  | 3.13E-02                            |
| Sr-90   | 3.25E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

| HQ ID    | RL-W690 | Stream Name | 340 TRL | J CH uncategorized metal S5119 Non-mixed |                         |               | Inventory Date 9/30       | 0/2002 |
|----------|---------|-------------|---------|--|-------------------------|---------------|---------------------------|--------|
| Local ID | N/A     | Handling    | CH      | Final Waste Form Uncategorized Metal     | Waste Matrix Code S5119 | Activity Cond | centrations Decayed to CY | 2002   |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      |                    |        | -     |       |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 411.92                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 1.22                          |
| Rubber                         | 1.82                          |
| Plastics                       | 18.16                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.38E-01                            |
| Cs-137  | 4.20E-02                            |
| Pu-238  | 1.27E-01                            |
| Pu-239  | 4.88E+00                            |
| Pu-240  | 1.09E+00                            |
| Pu-241  | 1.43E+01                            |
| Pu-242  | 6.58E-05                            |
| Sr-90   | 3.79E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

# Waste Stream ID: RL-W691 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| -        | _       |             | _       |                                |                         |               |                                |
|----------|---------|-------------|---------|--------------------------------|-------------------------|---------------|--------------------------------|
| HQ ID    | RL-W691 | Stream Name | 340 TRU | CH combustible S5319 Non-mixed |                         |               | Inventory Date 9/30/2002       |
| Local ID | N/A     | Handling    | CH      | Final Waste Form Combustible   | Waste Matrix Code S5319 | Activity Cond | centrations Decayed to CY 2002 |

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 145.40                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.03E-02                            |
| Cs-137  | 4.20E-02                            |
| Pu-238  | 5.91E-03                            |
| Pu-239  | 2.26E-01                            |
| Pu-240  | 5.06E-02                            |
| Pu-241  | 6.63E-01                            |
| Pu-242  | 3.05E-06                            |
| Sr-90   | 3.79E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W692          | Stream Nam | 340 TR | U CH combustible S5390 No    | on-mixed          |                     |        |          |         | Inventory       | Date 9/3  | 30/2002       |
|----------|------------------|------------|--------|------------------------------|-------------------|---------------------|--------|----------|---------|-----------------|-----------|---------------|
| Local ID | N/A              | Handlin    | CH     | Final Waste Form             | Combustible       | Waste Matrix Code   | S5390  | Activity | / Conce | entrations Deca | yed to C  | <b>Y</b> 2002 |
| <u>.</u> |                  |            |        |                              |                   | <br>L               |        |          |         |                 |           |               |
| Final Wa | ste Form Descrip | otors      |        |                              |                   | Waste Material Para | meters |          |         | Final Form Ra   | adionucli | des           |
| Categ    | ory: Defense TF  | RU Waste   | ource: | Facility/Equipment Operation | n and Maintenance |                     |        | Average  |         |                 | Typi      | cal           |

### Waste Volume Detail (m3)

| As-Generated Volumes |                 |        |       |       |
|----------------------|-----------------|--------|-------|-------|
| ContainerType        |                 | Stored | Proj. | Total |
| 55-Gallon Drum       |                 | 0.4    | 0.0   | 0.4   |
| Δ                    | Generated Total | 0.4    | 0.0   | 0.4   |

Waste

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

| Waste Material Faranieters     |                               |  |  |  |  |
|--------------------------------|-------------------------------|--|--|--|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |  |  |  |
| Iron-Base Metal/Alloys         | 0.00                          |  |  |  |  |
| Aluminum-Base Metal/Alloys     | 0.00                          |  |  |  |  |
| Other Metal/Alloys             | 72.70                         |  |  |  |  |
| Other Inorganic Materials      | 0.00                          |  |  |  |  |
| Cellulosics                    | 76.93                         |  |  |  |  |
| Rubber                         | 0.60                          |  |  |  |  |
| Plastics                       | 36.35                         |  |  |  |  |
| Solidified, Inorganic Matrix   | 0.00                          |  |  |  |  |
| Cement (Solidified)            | 0.00                          |  |  |  |  |
| Vitrified                      | 0.00                          |  |  |  |  |
| Solidified, Organic Matrix     | 0.00                          |  |  |  |  |
| Soils                          | 0.00                          |  |  |  |  |
| Packaging Material, Steel      | 131.00                        |  |  |  |  |
| Packaging Material, Plastic    | 37.00                         |  |  |  |  |
| Packaging Material, Lead       | 0.00                          |  |  |  |  |
| Packaging Material, Steel Plug | 0.00                          |  |  |  |  |
|                                |                               |  |  |  |  |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.02E-01                            |
| Cs-137  | 4.20E-02                            |
| Pu-238  | 1.17E-01                            |
| Pu-239  | 4.48E+00                            |
| Pu-240  | 1.00E+00                            |
| Pu-241  | 1.31E+01                            |
| Pu-242  | 6.04E-05                            |
| Sr-90   | 3.79E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W693 | Stream Name | 340 TRU | CH heterogeneous S5420 Non-mixed      |                         |               | Inventory Date         | 9/30/2002 |
|----------|---------|-------------|---------|---------------------------------------|-------------------------|---------------|------------------------|-----------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5420 | Activity Cond | centrations Decayed to | CY 2002   |

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 129.24                        |
| Other Inorganic Materials      | 255.78                        |
| Cellulosics                    | 18.17                         |
| Rubber                         | 0.00                          |
| Plastics                       | 36.34                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.31E-01                            |
| Cs-137  | 4.20E-02                            |
| Pu-238  | 9.63E-02                            |
| Pu-239  | 3.69E+00                            |
| Pu-240  | 8.26E-01                            |
| Pu-241  | 1.08E+01                            |
| Pu-242  | 4.97E-05                            |
| Sr-90   | 3.79E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

### Waste Stream ID: RL-W694 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W694 Stream Name 340 TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 2.3    | 0.0   | 2.3   |
|                      | As-Generated Total | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.3    | 0.0   | 2.3   |
|                    | Final Form Total | 2.3    | 0.0   | 2.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 103.54                        |
| Other Inorganic Materials      | 30.55                         |
| Cellulosics                    | 28.86                         |
| Rubber                         | 1.66                          |
| Plastics                       | 72.04                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.47E-01                            |
| Cs-137  | 4.20E-02                            |
| Pu-238  | 2.76E-01                            |
| Pu-239  | 1.06E+01                            |
| Pu-240  | 2.36E+00                            |
| Pu-241  | 3.10E+01                            |
| Pu-242  | 1.42E-04                            |
| Sr-90   | 3.79E-02                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the WASTE NEUTRALIZATION FACILITY.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W695** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name 3720 TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002 HQ ID RL-W695 N/A СН Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### W

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |
| Final Form Volumes   |                    |        |       |       |
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | Final Form Total   | 0.8    | 0.0   | 0.8   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 65.71                         |
| Other Inorganic Materials      | 13.10                         |
| Cellulosics                    | 53.71                         |
| Rubber                         | 65.48                         |
| Plastics                       | 79.81                         |
| Solidified, Inorganic Matrix   | 19.10                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 2.38                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.55E-03                            |
| Pu-239  | 2.84E-03                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMISTRY AND METAL SCIENCES LABORATORY.

### **Management Comments**

# Waste Stream ID: RL-W696 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W696 Stream Name 3720 TRU CH heterogeneous S5900 Non-mixed 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 20.60                         |
| Other Inorganic Materials      | 7.05                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 15.14                         |
| Plastics                       | 5.50                          |
| Solidified, Inorganic Matrix   | 30.29                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.71E-03                            |
| Pu-238  | 1.10E-02                            |
| Pu-239  | 1.38E-02                            |
| Pu-240  | 1.37E-02                            |
| Pu-241  | 4.63E-01                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMISTRY AND METAL SCIENCES LABORATORY.

### **Management Comments**

# Waste Stream ID: RL-W697 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W697 Stream Name 3720 TRU CH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.48                         |
| Other Inorganic Materials      | 29.10                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 43.60                         |
| Solidified, Inorganic Matrix   | 96.92                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
|---------|-------------------------------------|--|--|--|--|
| Am-241  | 5.54E+00                            |  |  |  |  |
| Pu-238  | 2.34E+01                            |  |  |  |  |
| Pu-239  | 3.33E-02                            |  |  |  |  |
| Pu-240  | 4.60E-03                            |  |  |  |  |
| Pu-242  | 1.38E-06                            |  |  |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CHEMISTRY AND METAL SCIENCES LABORATORY.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         RL-W698         Stream Name         622F TRU CH heterogen           Local ID         N/A         Handling         CH         Final Wa |             |           | eous Debris | Waste Matrix Code S5440        | Activity Con                  |          | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|-------------|-----------|-------------|--------------------------------|-------------------------------|----------|---|
| Final Waste Form Descriptors  | iste i omi  | lotorogon | ocac Boone  | Waste Material Parameters      | Activity Con                  |          | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3)   | atory Waste |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope  | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |             |           |             | Iron-Base Metal/Alloys         | 0.00                          | Am-241   | 4.75E-01                                |
| ContainerType   | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137   | 4.60E-01                                |
| 55 Gallon Drum  | 0.2         | 0.0       |             | Other Metal/Alloys             | 20.67                         | Pu-239   | 1.57E-04                                |
|   | 1           |           |             | Other Inorganic Materials      | 0.00                          | <u> </u> |   |
| As-Generated Total  | 0.2         | 0.0       | 0.2         | Cellulosics                    | 0.00                          |          |   |
| Final Form Volumes  |             |           |             | Rubber                         | 0.00                          |          |   |
| ContainerType   | Stored      | Proj.     | Total       | Plastics                       | 61.14                         |          |   |
| 55 Gallon Drum  | 0.2         | 0.0       | 0.2         | Solidified, Inorganic Matrix   | 6.48                          |          |   |
|   |             |           |             | Cement (Solidified)            | 0.00                          |          |   |
| Final Form Total  | 0.2         | 0.0       | 0.2         | Vitrified                      | 0.00                          |          |   |
|   |             |           |             | Solidified, Organic Matrix     | 0.00                          |          |   |
|   |             |           |             | Soils                          | 4.57                          |          |   |
|   |             |           |             | Packaging Material, Steel      | 131.00                        |          |   |
|   |             |           |             | Packaging Material, Plastic    | 37.00                         |          |   |
|   |             |           |             | Packaging Material, Lead       | 0.00                          |          |   |
|   |             |           |             | Packaging Material, Steel Plug | 0.00                          |          |   |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the FIELD OFFICE BUILDING.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W699 Stream Name 6652H TRU CH soils S41                            | 00 Non-mix | xed   |                                       |                              |                               | Invent     | ory Date 9/30/2002                  |  |  |
|---|------------|-------|---------------------------------------|------------------------------|-------------------------------|------------|-------------------------------------|--|--|
| Local ID N/A Handling CH Final Wa   | ste Form   | Soils | Waste Matrix Code S4100 Activity Conc |                              |                               |            | centrations Decayed to CY 2002      |  |  |
| Final Waste Form Descriptors  |            |       |                                       | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |  |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |       |                                       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |  |
| As-Generated Volumes  |            |       |                                       | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 1.94E-02                            |  |  |
| ContainerType   | Stored     | Proj. | Total                                 | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 7.78E-04                            |  |  |
| 55-Gallon Drum  | 0.4        | 0.0   |                                       | Other Metal/Alloys           | 0.00                          | Pu-239     | 5.28E-03                            |  |  |
| oo canen zham   | ••••       | 0.0   | <u> </u>                              | Other Inorganic Materials    | 0.00                          | Pu-240     | 6.25E-04                            |  |  |
| As-Generated Total  | 0.4        | 0.0   | 0.4                                   | Cellulosics                  | 0.00                          | Pu-241     | 9.83E-01                            |  |  |
| Final Form Volumes  |            |       |                                       | Rubber                       | 0.00                          | Pu-242     | 1.07E-09                            |  |  |
| ContainerType   | Stored     | Proj. | Total                                 | Plastics                     | 132.22                        |            |                                     |  |  |
| 55-Gallon Drum  | 0.4        | 0.0   | 0.4                                   | Solidified, Inorganic Matrix | 0.00                          |            |                                     |  |  |
| oo calleri Brain  | 0.1        | 0.0   | 0.1                                   | Cement (Solidified)          | 0.00                          |            |                                     |  |  |
| Final Form Total  | 0.4        | 0.0   | 0.4                                   | Vitrified                    | 0.00                          |            |                                     |  |  |
|   |            |       |                                       | Solidified, Organic Matrix   | 0.00                          |            |                                     |  |  |
|   |            |       |                                       | Soils                        | 603.36                        |            |                                     |  |  |

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

131.00

37.00

0.00

0.00

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the ALE LABORATORY 1.

### **Management Comments**

# Waste Stream ID: RL-W700 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W700 Stream Name ARGON TRU CH Pb/Cd metal X7219 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Lead/Cadmium Metal Waste Matrix Code X7219 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Non-defense TRU Waste | Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| 55 Gallon Drum       |                   | 1.3    | 0.0   | 1.3   |
| A                    | s-Generated Total | 1.3    | 0.0   | 1.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.3    | 0.0   | 1.3   |
|                    | Final Form Total | 1.3    | 0.0   | 1.3   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 1120.00                       |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 134.40                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 167.20                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.09E-03                            |
| Pu-238  | 6.75E-04                            |
| Pu-239  | 2.53E-02                            |
| Pu-240  | 5.67E-03                            |
| Pu-241  | 8.38E-02                            |
| Pu-242  | 3.42E-07                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Argonne National Laboratory - East (IL).

### **Management Comments**

464.00

0.00

Packaging Material, Lead
Packaging Material, Steel Plug

### Waste Stream ID: RL-W701

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W701 Stream Name BATCO MTRU RH Pb/Co                               | l metal X72 | 19 Mixed  | RCRA w/ met |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling RH Final Wa   | ste Form    | _ead/Cadn | nium Metal  | Waste Matrix Code X7219      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste  |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |           |             | Iron-Base Metal/Alloys       | 1377.22                       | Am-241     | 3.22E-08                            |
| ContainerType   | Stored      | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 9.18E-09                            |
| RH Canister   | 0.9         | 0.0       |             | Other Metal/Alloys           | 12.30                         | Pu-239     | 3.50E-07                            |
|   |             |           |             | Other Inorganic Materials    | 0.00                          | Pu-240     | 7.84E-08                            |
| As-Generated Total  | 0.9         | 0.0       | 0.9         | Cellulosics                  | 0.00                          | Pu-241     | 1.05E-06                            |
| Final Form Volumes  |             |           |             | Rubber                       | 0.00                          | Pu-242     | 4.72E-12                            |
| ContainerType   | Stored      | Proj.     | Total       | Plastics                     | 0.00                          |            |                                     |
| RH Canister   | 0.9         | 0.0       | 0.9         | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|   | L           |           |             | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.9         | 0.0       | 0.9         | Vitrified                    | 0.00                          |            |                                     |
|   |             |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |             |           |             | Soils                        | 0.00                          |            |                                     |
|   |             |           |             | Packaging Material, Steel    | 434.00                        |            |                                     |
|   |             |           |             | Packaging Material, Plastic  | 0.00                          |            |                                     |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Battelle Columbus (OH).

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W702 Stream Name CUPRC TRU CH soils S4  | 100 Non-n        | nixed |       |                               |                               | Inventory Date 9/30/2002       |
|--|------------------|-------|-------|-------------------------------|-------------------------------|--------------------------------|
| Local ID N/A Handling CH Final Wa  | /aste Form Soils |       |       | Waste Matrix Code S4100       | Activity Con                  | centrations Decayed to CY 2002 |
| Final Waste Form Descriptors   |                  |       |       | Waste Material Parameters     |                               | No Final Form                  |
| Category: Non-defense TRU Waste Source: R&D/R&D Laboratory Waste  Waste Volume Detail (m3) |                  |       |       | Material Parameter            | Average<br>Density<br>(kg/m3) | Radionuclides Provided         |
|  |                  |       |       | Iron-Base Metal/Alloys        | 0.00                          |                                |
| As-Generated Volumes   |                  |       |       | Aluminum-Base Metal/Alloys    | 0.00                          |                                |
| ContainerType  | Stored           | Proj. | Total | Other Metal/Alloys            | 9.71                          |                                |
| 55-Gallon Drum   | 0.2              | 0.0   | 0.2   | Other Inorganic Materials     | 0.00                          |                                |
| As-Generated Total   | 0.2              | 0.0   | 0.2   | Cellulosics                   | 0.00                          |                                |
|  | 0.2              | 0.0   | 0.2   | Rubber                        | 0.00                          |                                |
| Final Form Volumes   |                  |       |       | Plastics                      | 23.28                         |                                |
| ContainerType  | Stored           | Proj. | Total | Solidified, Inorganic Matrix  | 3.89                          |                                |
| 55-Gallon Drum   | 0.2              | 0.0   | 0.2   | Cement (Solidified)           | 0.00                          |                                |
| Final Form Total   | 0.2              | 0.0   | 0.2   | Vitrified                     | 0.00                          |                                |
|  | 0.2              | 0.0   | 0.2   | Solidified, Organic Matrix    | 0.00                          |                                |
|  |                  |       |       | Soils                         | 613.84                        |                                |
|  |                  |       |       | Packaging Material, Steel     | 131.00                        |                                |
|  |                  |       |       | Packaging Material, Plastic   | 37.00                         |                                |
|  |                  |       |       | Packaging Material, Lead      | 0.00                          |                                |
|  |                  |       |       | Packaging Material Steel Plug | 0.00                          |                                |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CEER University Laboratory.

### **Management Comments**

## Waste Stream ID: RL-W703 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W703 Stream Name CUPRC TRU CH inorganic non-metal S5121 Non-mixed

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5121 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### Waste Material Parameters

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 48.48                         |
| Other Inorganic Materials      | 690.56                        |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Cs-137  | 4.29E-02                            |
| Sr-90   | 3.89E-02                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the CEER University Laboratory.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W704 | Stream Name | ESG MT | TRU CH heterogeneous S5440 Mixed RCRA w/ met |                         |               | Inventory Date 9/3        | 30/2002 |
|----------|---------|-------------|--------|--|-------------------------|---------------|---------------------------|---------|
| Local ID | N/A     | Handling    | СН     | Final Waste Form Heterogeneous Debris        | Waste Matrix Code S5440 | Activity Cond | centrations Decayed to CY | 2002    |
|          |         |             |        |  |                         |               |                           |         |

### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 146.40                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 28.80                         |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 55.44                         |
| Rubber                         | 34.80                         |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 9.60                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 95.00                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.18E-01                            |
| Cs-137  | 9.80E-02                            |
| Pu-238  | 5.72E-01                            |
| Pu-239  | 4.75E-01                            |
| Pu-240  | 1.96E-01                            |
| Pu-241  | 5.00E+00                            |
| Pu-242  | 3.32E-05                            |
| Sr-90   | 1.70E-01                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

### **Management Comments**

## Waste Stream ID: RL-W705 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W705 Stream Name ESG TRU CH solidified inorganic S3119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.61                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 193.20                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.14E-03                            |
| Cs-137  | 3.72E-03                            |
| Pu-238  | 3.54E-04                            |
| Pu-239  | 1.34E-02                            |
| Pu-240  | 3.01E-03                            |
| Pu-241  | 4.13E-02                            |
| Pu-242  | 1.81E-07                            |
| Sr-90   | 3.37E-03                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W706           | Stream Name ESG TRU CH soils S4100 |            |       |       |                              |                               |                 | ory Date 9/30/2002                  |
|----------|-------------------|------------------------------------|------------|-------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | N/A               | Handling CH Final Wa               | ste Form   | Soils |       | Waste Matrix Code S4100      | Activity Cor                  | ncentrations De | ecayed to CY 2002                   |
| Final Wa | aste Form Descrip | otors                              |            |       |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
|          | gory: Non-defens  |                                    | tory Waste |       |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes  |                                    |            |       |       | Iron-Base Metal/Alloys       | 0.00                          | Cs-137          | 3.09E-01                            |
|          | ainerType         |                                    | Stored     | Proj. | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Sr-90           | 2.80E-01                            |
|          | allon Drum        |                                    | 0.2        | 0.0   |       | Other Metal/Alloys           | 0.00                          |                 |                                     |
|          |                   |                                    | <u> </u>   |       |       | Other Inorganic Materials    | 0.00                          |                 |                                     |
|          |                   | As-Generated Total                 | 0.2        | 0.0   | 0.2   | Cellulosics                  | 0.00                          |                 |                                     |
| Final    | Form Volumes      |                                    |            |       |       | Rubber                       | 0.00                          |                 |                                     |
|          | ainerType         |                                    | Stored     | Proj. | Total | Plastics                     | 0.00                          |                 |                                     |
|          | allon Drum        |                                    | 0.2        | 0.0   | 0.2   | Solidified, Inorganic Matrix | 132.56                        |                 |                                     |
|          |                   |                                    |            |       |       | Cement (Solidified)          | 0.00                          |                 |                                     |
|          |                   | Final Form Total                   | 0.2        | 0.0   | 0.2   | Vitrified                    | 0.00                          |                 |                                     |
|          |                   |                                    |            |       |       | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|          |                   |                                    |            |       |       | Soils                        | 583.16                        |                 |                                     |
|          |                   |                                    |            |       |       | Packaging Material, Steel    | 131.00                        |                 |                                     |
|          |                   |                                    |            |       |       | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|          |                   |                                    |            |       |       | Packaging Material, Lead     | 0.00                          |                 |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

## RL-W707 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stored Proj.

Stream Name ESG TRU CH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002 HQ ID RL-W707 N/A CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002 Local ID Handling **Final Waste Form Descriptors Waste Material Parameters Final Form Radionuclides** Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

Total

## Waste Volume Detail (m3)

ContainerType

55-Gallon Drum

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 1.9    | 0.0   | 1.9   |
|                      | As-Generated Total | 1.9    | 0.0   | 1.9   |
| Final Form Volumes   |                    |        |       |       |

| 1                | 1.9 | 0.0 | 1.9 |
|------------------|-----|-----|-----|
| -                |     |     |     |
| Final Form Total | 1.9 | 0.0 | 1.9 |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 354.87                        |
| Aluminum-Base Metal/Alloys     | 0.22                          |
| Other Metal/Alloys             | 101.73                        |
| Other Inorganic Materials      | 6.14                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.62                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.36E-02                            |
| Cs-137  | 1.81E-04                            |
| Pu-238  | 4.20E-03                            |
| Pu-239  | 1.59E-01                            |
| Pu-240  | 3.57E-02                            |
| Pu-241  | 4.90E-01                            |
| Pu-242  | 2.15E-06                            |
| Sr-90   | 1.64E-04                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

#### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W708 Stream Name ESG TRU CH combustib                              | le S5319 N  | on-mixed  |       |                                |                               | Invent          | ory Date 9/30/2002                  |
|---|-------------|-----------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | aste Form   | Combustib | le    | Waste Matrix Code S5319        | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors  |             |           |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | atory Waste |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |           |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241          | 6.16E-03                            |
| ContainerType   | Stored      | Proj.     | Total | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137          | 8.59E-05                            |
| 55-Gallon Drum  | 0.6         |           | 0.6   | Other Metal/Alloys             | 9.70                          | Pu-238          | 1.91E-03                            |
|   |             |           |       | Other Inorganic Materials      | 0.00                          | Pu-239          | 7.24E-02                            |
| As-Generated Total  | 0.6         | 0.0       | 0.6   | Cellulosics                    | 9.70                          | Pu-240          | 1.62E-02                            |
| Final Form Volumes  |             |           |       | Rubber                         | 80.77                         | Pu-241          | 2.23E-01                            |
| ContainerType   | Stored      | Proj.     | Total | Plastics                       | 24.23                         | Pu-242          | 9.76E-07                            |
| 55-Gallon Drum  | 0.6         | 0.0       | 0.6   | Solidified, Inorganic Matrix   | 12.92                         | Sr-90           | 7.77E-05                            |
|   |             |           |       | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total  | 0.6         | 0.0       | 0.6   | Vitrified                      | 0.00                          |                 |                                     |
|   |             |           |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |             |           |       | Soils                          | 0.00                          |                 |                                     |
|   |             |           |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|   |             |           |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|   |             |           |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |             |           |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W709 Stream Name ESG TRU CH combustible                            |            |           |       |                                |                               | Invento         | ory Date 9/30/2002                  |
|---|------------|-----------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | Combustib | le    | Waste Matrix Code S5320        | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors  |            |           |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |       | Iron-Base Metal/Alloys         | 0.00                          | Am-241          | 6.38E+00                            |
| ContainerType   | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys     | 29.10                         | Cs-137          | 4.29E-03                            |
| 55-Gallon Drum  | 0.2        | 0.0       | 0.2   | Other Metal/Alloys             | 24.22                         | Pu-238          | 1.97E+00                            |
|   | <u> </u>   |           |       | Other Inorganic Materials      | 0.00                          | Pu-239          | 7.50E+01                            |
| As-Generated Total  | 0.2        | 0.0       | 0.2   | Cellulosics                    | 116.30                        | Pu-240          | 1.68E+01                            |
| Final Form Volumes  |            |           |       | Rubber                         | 0.00                          | Pu-241          | 2.31E+02                            |
| ContainerType   | Stored     | Proj.     | Total | Plastics                       | 0.00                          | Pu-242          | 1.01E-03                            |
| 55-Gallon Drum  | 0.2        | 0.0       | 0.2   | Solidified, Inorganic Matrix   | 0.00                          | Sr-90           | 3.89E-03                            |
|   |            |           |       | Cement (Solidified)            | 0.00                          |                 | _                                   |
| Final Form Total  | 0.2        | 0.0       | 0.2   | Vitrified                      | 0.00                          |                 |                                     |
|   |            |           |       | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|   |            |           |       | Soils                          | 0.00                          |                 |                                     |
|   |            |           |       | Packaging Material, Steel      | 131.00                        |                 |                                     |
|   |            |           |       | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|   |            |           |       | Packaging Material, Lead       | 0.00                          |                 |                                     |
|   |            |           |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

0.00

Packaging Material, Steel Plug

## Waste Stream ID: RL-W710

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| RL-W710 Stream Name ESG TRU CH combustible                                   |            |           |       |                              |                               |                 | ory Date 9/30/2002                  |
|--|------------|-----------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| _ocal ID N/A Handling CH Final Wa  | ste Form   | Combustib | le    | Waste Matrix Code S5330      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste | •         |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |       | Iron-Base Metal/Alloys       | 48.48                         | Am-241          | 3.81E-04                            |
| ContainerType  | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 8.59E-05                            |
| 55-Gallon Drum   | 0.2        |           |       | Other Metal/Alloys           | 0.00                          | Pu-238          | 1.18E-04                            |
|  |            |           |       | Other Inorganic Materials    | 0.00                          | Pu-239          | 4.48E-03                            |
| As-Generated Total   | 0.2        | 0.0       | 0.2   | Cellulosics                  | 109.02                        | Pu-240          | 1.00E-03                            |
| Final Form Volumes   |            |           |       | Rubber                       | 0.00                          | Pu-241          | 1.38E-02                            |
| ContainerType  | Stored     | Proj.     | Total | Plastics                     | 0.00                          | Pu-242          | 6.04E-08                            |
| 55-Gallon Drum   | 0.2        | 0.0       | 0.2   | Solidified, Inorganic Matrix | 0.00                          | Sr-90           | 7.77E-05                            |
|  |            |           |       | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0       | 0.2   | Vitrified                    | 0.00                          |                 |                                     |
|  |            |           |       | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |           |       | Soils                        | 0.00                          |                 |                                     |
|  |            |           |       | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |           |       | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |           |       | Packaging Material Lead      | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W711 Stream Name ESG TRU CH heterogene                             | eous S5420 | ) Non-mixe | ed          |                              |                               | Invent          | ory Date 9/30/2002                  |
|---|------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form   | -leterogen | eous Debris | Waste Matrix Code S5420      | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors  |            |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |            |             | Iron-Base Metal/Alloys       | 169.61                        | Am-241          | 1.19E-01                            |
| ContainerType   | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 4.29E-04                            |
| 55-Gallon Drum  | 0.2        |            |             | Other Metal/Alloys           | 145.39                        | Pu-238          | 3.68E-02                            |
|   | l          |            |             | Other Inorganic Materials    | 61.06                         | Pu-239          | 1.40E+00                            |
| As-Generated Total  | 0.2        | 0.0        | 0.2         | Cellulosics                  | 0.00                          | Pu-240          | 3.13E-01                            |
| Final Form Volumes  |            |            |             | Rubber                       | 0.00                          | Pu-241          | 4.30E+00                            |
| ContainerType   | Stored     | Proj.      | Total       | Plastics                     | 5.82                          | Pu-242          | 1.88E-05                            |
| 55-Gallon Drum  | 0.2        | 0.0        | 0.2         | Solidified, Inorganic Matrix | 0.00                          | Sr-90           | 3.89E-04                            |
|   |            |            |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total  | 0.2        | 0.0        | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|   |            |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|   |            |            |             | Soils                        | 0.00                          |                 |                                     |
|   |            |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|   |            |            |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|   |            |            |             | Packaging Material, Lead     | 0.00                          |                 |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

0.00

Packaging Material, Steel Plug

## Waste Stream ID: RL-W712

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W712 Stream Name ESG TRU CH heterogene                              | eous S5440 | ) Non-mixe | ed          |                              |                               | Invento         | ory Date 9/30/2002                  |
|--|------------|------------|-------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Heterogen  | eous Debris | Waste Matrix Code S5440      | Activity Co                   | ncentrations De | cayed to CY 2002                    |
| Final Waste Form Descriptors   |            |            |             | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |            |             | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 1.54E-01                            |
| ContainerType  | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.00                          | Cs-137          | 1.03E-03                            |
| 55-Gallon Drum   | 0.2        | _          |             | Other Metal/Alloys           | 4.84                          | Pu-238          | 4.76E-02                            |
|  | l          |            |             | Other Inorganic Materials    | 0.00                          | Pu-239          | 1.81E+00                            |
| As-Generated Total   | 0.2        | 0.0        | 0.2         | Cellulosics                  | 65.42                         | Pu-240          | 4.05E-01                            |
| Final Form Volumes   |            |            |             | Rubber                       | 36.33                         | Pu-241          | 5.56E+00                            |
| ContainerType  | Stored     | Proj.      | Total       | Plastics                     | 14.55                         | Pu-242          | 2.44E-05                            |
| 55-Gallon Drum   | 0.2        | 0.0        | 0.2         | Solidified, Inorganic Matrix | 9.71                          | Sr-90           | 9.33E-04                            |
|  | l!         |            |             | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 0.0        | 0.2         | Vitrified                    | 0.00                          |                 |                                     |
|  |            |            |             | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |            |             | Soils                        | 0.00                          |                 |                                     |
|  |            |            |             | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |            |             | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |            |             | Packaging Material, Lead     | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

## **Management Comments**

#### Appendix J **RL-W713** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name ESG TRU CH heterogeneous S5900 Non-mixed HQ ID RL-W713 Inventory Date 9/30/2002 N/A CH Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002 Local ID Handling Final Waste Form Heterogeneous Debris

### **Final Waste Form Descriptors**

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |
| Final Form Volumes   |                    |        |       |       |

| ContainerType  |                  | Stored | Proj. | Total |
|----------------|------------------|--------|-------|-------|
| 55-Gallon Drum |                  | 0.2    | 0.0   | 0.2   |
|                | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 7.74                          |
| Other Metal/Alloys             | 67.86                         |
| Other Inorganic Materials      | 40.69                         |
| Cellulosics                    | 48.48                         |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 54.26                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i olili itaalollaollaoo |                                     |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                          | 1.33E-01                            |  |  |  |
| Cs-137                          | 4.29E-03                            |  |  |  |
| Pu-238                          | 4.11E-02                            |  |  |  |
| Pu-239                          | 1.56E+00                            |  |  |  |
| Pu-240                          | 3.50E-01                            |  |  |  |
| Pu-241                          | 4.81E+00                            |  |  |  |
| Pu-242                          | 2.11E-05                            |  |  |  |
| Sr-90                           | 3.89E-03                            |  |  |  |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Rockwell International, Energy Systems Group (CA).

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W714 Stream Name KAPL TRU CH solidified i  | inorganic S | 3119 Non | -mixed  |                                |                                  | Inventory Date 9/30/2002 |
|---|-------------|----------|---------|--------------------------------|----------------------------------|--------------------------|
| ocal ID         N/A         Handling         CH         Final Waste Form         Solidified Inorganics         Waste Matrix Code         S3119         Activity |             |          |         | Activity Co                    | oncentrations Decayed to CY 2002 |                          |
| Final Waste Form Descriptors  |             |          |         | Waste Material Parameters      |                                  | No Final Form            |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste   | t Operatior | and Main | tenance | Material Parameter             | Average<br>Density<br>(kg/m3)    | Radionuclides Provided   |
| Waste Volume Detail (m3)  |             |          |         | Iron-Base Metal/Alloys         | 0.00                             |                          |
| As-Generated Volumes  |             |          |         | Aluminum-Base Metal/Alloys     | 0.00                             |                          |
| ContainerType   | Stored      | Proj.    | Total   | Other Metal/Alloys             | 0.00                             |                          |
| 55-Gallon Drum  | 0.2         | 0.0      | 0.2     | Other Inorganic Materials      | 0.00                             |                          |
| As Compared Total   | 0.2         | 0.0      | 0.2     | Cellulosics                    | 0.00                             |                          |
| As-Generated Total  | 0.2         | 0.0      | 0.2     | Rubber                         | 0.00                             |                          |
| Final Form Volumes  |             |          |         | Plastics                       | 0.00                             |                          |
| ContainerType   | Stored      | Proj.    | Total   | Solidified, Inorganic Matrix   | 1.20                             |                          |
| 55-Gallon Drum  | 0.2         | 0.0      | 0.2     | Cement (Solidified)            | 0.00                             |                          |
| Final Form Total  | 0.2         | 0.0      | 0.2     | Vitrified                      | 0.00                             |                          |
| Filial Form Total   | 0.2         | 0.0      | 0.2     | Solidified, Organic Matrix     | 0.00                             |                          |
|   |             |          |         | Soils                          | 0.00                             |                          |
|   |             |          |         | Packaging Material, Steel      | 131.00                           |                          |
|   |             |          |         | Packaging Material, Plastic    | 37.00                            |                          |
|   |             |          |         | Packaging Material, Lead       | 0.00                             |                          |
|   |             |          |         | Packaging Material, Steel Plug | 0.00                             |                          |

## **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the Knolls Atomic Power Laboratory.

## **Management Comments**

## Waste Stream ID: RL-W715 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W715 Stream Name MCGEE TRU CH solidified inorganic S3119 Non-mixed

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 19.20                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 2.40                          |
| Other Inorganic Materials      | 48.52                         |
| Cellulosics                    | 2.88                          |
| Rubber                         | 0.00                          |
| Plastics                       | 3.60                          |
| Solidified, Inorganic Matrix   | 227.16                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 17.28                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| T IIIdi T OITII Madioilaci |                                     |  |  |  |
|----------------------------|-------------------------------------|--|--|--|
| Isotope                    | Typical<br>Concentration<br>(Ci/m3) |  |  |  |
| Am-241                     | 1.20E-03                            |  |  |  |
| Pu-238                     | 3.43E-04                            |  |  |  |
| Pu-239                     | 1.31E-02                            |  |  |  |
| Pu-240                     | 2.93E-03                            |  |  |  |
| Pu-241                     | 3.92E-02                            |  |  |  |
| Pu-242                     | 1.76E-07                            |  |  |  |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

## Waste Stream ID: RL-W716 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W716 Stream Name MCGEE TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 0.8   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 388.80                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 5.00                          |
| Other Inorganic Materials      | 24.70                         |
| Cellulosics                    | 6.36                          |
| Rubber                         | 0.90                          |
| Plastics                       | 6.84                          |
| Solidified, Inorganic Matrix   | 18.20                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 2.88                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| a <b>9</b> | aarorraonaoo                        |
|------------|-------------------------------------|
| Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| Am-241     | 6.25E-03                            |
| Pu-238     | 1.78E-03                            |
| Pu-239     | 6.81E-02                            |
| Pu-240     | 1.52E-02                            |
| Pu-241     | 2.04E-01                            |
| Pu-242     | 9.18E-07                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

#### RL-W717 Waste Stream ID:

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W717 | Stream Name | MCGEE | MTRU CH uncategorized m | netal S5119 Mixed RCR | RA w/ met         |       |               | Inventory Date        | 9/30/2002 |
|----------|---------|-------------|-------|-------------------------|-----------------------|-------------------|-------|---------------|-----------------------|-----------|
| Local ID | N/A     | Handling    | СН    | Final Waste Form        | Uncategorized Metal   | Waste Matrix Code | S5119 | Activity Cond | centrations Decayed t | o CY 2002 |

#### **Final Waste Form Descriptors**

Category: Non-defense TRU Waste | Source: | R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 480.00                        |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i Oliii ik | adionaonaes                         |
|--------------------|-------------------------------------|
| Isotope            | Typical<br>Concentration<br>(Ci/m3) |
| Am-241             | 6.25E-03                            |
| Pu-238             | 1.78E-03                            |
| Pu-239             | 6.81E-02                            |
| Pu-240             | 1.52E-02                            |
| Pu-241             | 2.04E-01                            |
| Pu-242             | 9.18E-07                            |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W718 Stream Name MCGEE TRU CH combus                                | tible S533 | 0 Non-mix | ed    |                              |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|-----------|-------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa  | ste Form   | Combustib | le    | Waste Matrix Code S5330      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |       | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |           |       | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |       | Iron-Base Metal/Alloys       | 0.00                          | Am-241          | 5.51E-04                            |
| ContainerType  | Stored     | Proj.     | Total | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238          | 1.57E-04                            |
| 55 Gallon Drum   | 0.4        | 0.0       |       | Other Metal/Alloys           | 0.00                          | Pu-239          | 6.00E-03                            |
|  |            |           |       | Other Inorganic Materials    | 3.84                          | Pu-240          | 1.34E-03                            |
| As-Generated Total   | 0.4        | 0.0       | 0.4   | Cellulosics                  | 109.80                        | Pu-241          | 1.80E-02                            |
| Final Form Volumes   |            |           |       | Rubber                       | 0.00                          | Pu-242          | 8.09E-08                            |
| ContainerType  | Stored     | Proj.     | Total | Plastics                     | 4.32                          |                 |                                     |
| 55 Gallon Drum   | 0.4        | 0.0       | 0.4   | Solidified, Inorganic Matrix | 2.88                          |                 |                                     |
|  |            |           |       | Cement (Solidified)          | 0.00                          |                 |                                     |
| Final Form Total   | 0.4        | 0.0       | 0.4   | Vitrified                    | 0.00                          |                 |                                     |
|  |            |           |       | Solidified, Organic Matrix   | 0.00                          |                 |                                     |
|  |            |           |       | Soils                        | 0.00                          |                 |                                     |
|  |            |           |       | Packaging Material, Steel    | 131.00                        |                 |                                     |
|  |            |           |       | Packaging Material, Plastic  | 37.00                         |                 |                                     |
|  |            |           |       | Packaging Material, Lead     | 0.00                          |                 |                                     |

Packaging Material, Steel Plug

0.00

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

## **Management Comments**

## Waste Stream ID: RL-W719 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W719 Stream Name MCGEE TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 232.80                        |
| Aluminum-Base Metal/Alloys     | 5.76                          |
| Other Metal/Alloys             | 26.40                         |
| Other Inorganic Materials      | 10.08                         |
| Cellulosics                    | 2.40                          |
| Rubber                         | 0.00                          |
| Plastics                       | 17.28                         |
| Solidified, Inorganic Matrix   | 28.80                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 6.72                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| i iliai i oriii itaaloriaciiaes |                                     |  |  |  |  |
|---------------------------------|-------------------------------------|--|--|--|--|
| Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |
| Am-241                          | 2.49E-03                            |  |  |  |  |
| Pu-238                          | 7.10E-04                            |  |  |  |  |
| Pu-239                          | 2.71E-02                            |  |  |  |  |
| Pu-240                          | 6.07E-03                            |  |  |  |  |
| Pu-241                          | 8.13E-02                            |  |  |  |  |
| Pu-242                          | 3.65E-07                            |  |  |  |  |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

#### Appendix J Waste Stream ID: **RL-W720** TRU WASTE BASELINE INVENTORY WASTE PROFILE

Stream Name MCGEE TRU CH heterogeneous S5440 Non-mixed HQ ID RL-W720 Inventory Date 9/30/2002 N/A CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002 Local ID Handling

#### **Final Waste Form Descriptors**

Source: R&D/R&D Laboratory Waste Category: Defense TRU Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.5    | 0.0   | 2.5   |
|                      | As-Generated Total | 2.5    | 0.0   | 2.5   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 2.5    | 0.0   | 2.5   |
|                    |        |       |       |

Final Form Total 2.5 0.0

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 79.60                         |
| Aluminum-Base Metal/Alloys     | 3.84                          |
| Other Metal/Alloys             | 24.87                         |
| Other Inorganic Materials      | 19.30                         |
| Cellulosics                    | 28.50                         |
| Rubber                         | 5.80                          |
| Plastics                       | 48.12                         |
| Solidified, Inorganic Matrix   | 20.27                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 4.32                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.57E-03                            |
| Pu-238  | 7.32E-04                            |
| Pu-239  | 2.79E-02                            |
| Pu-240  | 6.25E-03                            |
| Pu-241  | 8.38E-02                            |
| Pu-242  | 3.77E-07                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

## Waste Stream ID: RL-W721 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W721 Stream Name MCGEE TRU CH heterogeneous S5900 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.3    | 0.0   | 2.3   |
|                      | As-Generated Total | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.3    | 0.0   | 2.3   |
|                    | Final Form Total | 2.3    | 0.0   | 2.3   |

#### **Waste Material Parameters**

| Waste Material Parameters      |                               |
|--------------------------------|-------------------------------|
| Material Parameter             | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys         | 140.95                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 12.65                         |
| Other Inorganic Materials      | 27.35                         |
| Cellulosics                    | 10.34                         |
| Rubber                         | 1.53                          |
| Plastics                       | 34.17                         |
| Solidified, Inorganic Matrix   | 28.74                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 23.21                         |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |
|                                |                               |

#### **Final Form Radionuclides**

| i iliai i Olilli ik | adionaciaes                         |
|---------------------|-------------------------------------|
| Isotope             | Typical<br>Concentration<br>(Ci/m3) |
| Am-241              | 1.90E-03                            |
| Pu-238              | 5.41E-04                            |
| Pu-239              | 2.06E-02                            |
| Pu-240              | 4.62E-03                            |
| Pu-241              | 6.19E-02                            |
| Pu-242              | 2.78E-07                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

## Waste Stream ID: RL-W723 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W723 Stream Name MCGEE TRU CH solidified inorganic S3119 Non-mixed

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 69.46                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 4.85                          |
| Other Inorganic Materials      | 12.92                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.45                          |
| Solidified, Inorganic Matrix   | 272.06                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.32E-02                            |
| Cs-137  | 1.68E-04                            |
| Pu-238  | 6.77E-03                            |
| Pu-239  | 2.59E-01                            |
| Pu-240  | 5.80E-02                            |
| Pu-241  | 7.59E-01                            |
| Pu-242  | 3.49E-06                            |
| Sr-90   | 1.52E-04                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

## RL-W724 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W724 Stream Name MCGEE TRU CH uncategorized metal S5119 Non-mixed

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 3.3    | 0.0   | 3.3   |
|                      | As-Generated Total | 3.3    | 0.0   | 3.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 3.3    | 0.0   | 3.3   |
|                    | Final Form Total | 3.3    | 0.0   | 3.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 322.87                        |
| Aluminum-Base Metal/Alloys     | 3.75                          |
| Other Metal/Alloys             | 91.02                         |
| Other Inorganic Materials      | 11.56                         |
| Cellulosics                    | 0.09                          |
| Rubber                         | 0.76                          |
| Plastics                       | 9.72                          |
| Solidified, Inorganic Matrix   | 0.36                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.90E-02                            |
| Cs-137  | 2.87E-03                            |
| Pu-238  | 8.45E-03                            |
| Pu-239  | 3.23E-01                            |
| Pu-240  | 7.25E-02                            |
| Pu-241  | 9.48E-01                            |
| Pu-242  | 4.36E-06                            |
| Sr-90   | 2.59E-03                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

## RL-W725 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W725 Stream Name MCGEE TRU CH combustible S5319 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 1.2    | 0.0   | 1.2   |
|                      | As-Generated Total | 1.2    | 0.0   | 1.2   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 1.2    | 0.0   | 1.2   |
|                    |        |       |       |

 Final Form Total
 1.2
 0.0
 1.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 17.77                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 3.23                          |
| Other Inorganic Materials      | 24.30                         |
| Cellulosics                    | 4.61                          |
| Rubber                         | 0.00                          |
| Plastics                       | 124.79                        |
| Solidified, Inorganic Matrix   | 14.21                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.44E-02                            |
| Cs-137  | 5.73E-04                            |
| Pu-238  | 7.10E-03                            |
| Pu-239  | 2.72E-01                            |
| Pu-240  | 6.09E-02                            |
| Pu-241  | 7.97E-01                            |
| Pu-242  | 3.67E-06                            |
| Sr-90   | 5.18E-04                            |

#### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

#### **Management Comments**

# Waste Stream ID: RL-W726 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W726 Stream Name MCGEE TRU CH filter S5410 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 1.7    | 0.0   | 1.7   |
|                      | As-Generated Total | 1.7    | 0.0   | 1.7   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55-Gallon Drum     | 1.7    | 0.0   | 1.7   |
|                    |        |       |       |

Final Form Total

1.7

0.0

1.7

#### **Waste Material Parameters**

| Waste Material Faranteters   |                               |
|--|-------------------------------|
| Material Parameter   | Average<br>Density<br>(kg/m3) |
| Iron-Base Metal/Alloys   | 96.32                         |
| Aluminum-Base Metal/Alloys   | 1.45                          |
| Other Metal/Alloys   | 32.21                         |
| Other Inorganic Materials  | 60.29                         |
| Cellulosics  | 4.76                          |
| Rubber   | 0.45                          |
| Plastics   | 11.26                         |
| Solidified, Inorganic Matrix   | 6.78                          |
| Cement (Solidified)  | 0.00                          |
| Vitrified  | 0.00                          |
| Solidified, Organic Matrix   | 0.00                          |
| Soils  | 0.00                          |
| Packaging Material, Steel  | 131.00                        |
| Packaging Material, Plastic  | 37.00                         |
| Packaging Material, Lead   | 0.00                          |
| Packaging Material, Steel Plug   | 0.00                          |
| Packaging Material, Steel<br>Packaging Material, Plastic<br>Packaging Material, Lead | 131.0<br>37.0<br>0.0          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |  |  |
|---------|-------------------------------------|--|--|
| Am-241  | 1.44E-02                            |  |  |
| Cs-137  | 6.92E-04                            |  |  |
| Pu-238  | 4.20E-03                            |  |  |
| Pu-239  | 1.61E-01                            |  |  |
| Pu-240  | 3.60E-02                            |  |  |
| Pu-241  | 4.71E-01                            |  |  |
| Pu-242  | 2.17E-06                            |  |  |
| Sr-90   | 6.26E-04                            |  |  |

### **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

## Waste Stream ID: RL-W727 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W727 Stream Name MCGEE TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 6.2    | 0.0   | 6.2   |
|                      | As-Generated Total | 6.2    | 0.0   | 6.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 6.2    | 0.0   | 6.2   |
|                    | Final Form Total | 6.2    | 0.0   | 6.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 182.54                        |
| Aluminum-Base Metal/Alloys     | 7.11                          |
| Other Metal/Alloys             | 88.42                         |
| Other Inorganic Materials      | 65.38                         |
| Cellulosics                    | 6.14                          |
| Rubber                         | 1.66                          |
| Plastics                       | 24.42                         |
| Solidified, Inorganic Matrix   | 11.50                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.36E-02                            |
| Cs-137  | 1.75E-03                            |
| Pu-238  | 6.87E-03                            |
| Pu-239  | 2.63E-01                            |
| Pu-240  | 5.89E-02                            |
| Pu-241  | 7.71E-01                            |
| Pu-242  | 3.55E-06                            |
| Sr-90   | 1.58E-03                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

## RL-W728 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W728 Stream Name MCGEE TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 8.3    | 0.0   | 8.3   |
|                      | As-Generated Total | 8.3    | 0.0   | 8.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 8.3    | 0.0   | 8.3   |
|                    | Final Form Total | 8.3    | 0.0   | 8.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 98.61                         |
| Aluminum-Base Metal/Alloys     | 0.78                          |
| Other Metal/Alloys             | 36.84                         |
| Other Inorganic Materials      | 25.62                         |
| Cellulosics                    | 14.31                         |
| Rubber                         | 2.75                          |
| Plastics                       | 70.29                         |
| Solidified, Inorganic Matrix   | 7.47                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.61E-02                            |
| Cs-137  | 1.19E-03                            |
| Pu-238  | 4.70E-03                            |
| Pu-239  | 1.80E-01                            |
| Pu-240  | 4.03E-02                            |
| Pu-241  | 5.27E-01                            |
| Pu-242  | 2.43E-06                            |
| Sr-90   | 1.08E-03                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

## RL-W729 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W729 Stream Name MCGEE TRU CH heterogeneous S5900 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5900 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 2.9    | 0.0   | 2.9   |
|                      | As-Generated Total | 2.9    | 0.0   | 2.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.9    | 0.0   | 2.9   |
|                    | Final Form Total | 2.9    | 0.0   | 2.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 103.50                        |
| Aluminum-Base Metal/Alloys     | 4.43                          |
| Other Metal/Alloys             | 16.13                         |
| Other Inorganic Materials      | 73.70                         |
| Cellulosics                    | 7.02                          |
| Rubber                         | 2.34                          |
| Plastics                       | 33.96                         |
| Solidified, Inorganic Matrix   | 35.52                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.13E-02                            |
| Cs-137  | 5.16E-04                            |
| Pu-238  | 6.20E-03                            |
| Pu-239  | 2.37E-01                            |
| Pu-240  | 5.31E-02                            |
| Pu-241  | 6.95E-01                            |
| Pu-242  | 3.20E-06                            |
| Sr-90   | 4.66E-04                            |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the Kerr McGee.

### **Management Comments**

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| AQ ID RL-W730 Stream Name PNL TRU CH heterogene                              |            |           |             |                               |                               |                 | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|-------------------------------|-------------------------------|-----------------|-------------------------------------|
| ocal ID N/A Handling CH Final Wa   | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5420       | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |           |             | Waste Material Parameters     |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |           |             | Material Parameter            | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |           |             | Iron-Base Metal/Alloys        | 0.00                          | Am-241          | 4.31E-01                            |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys    | 0.00                          |                 |                                     |
| 55-Gallon Drum   | 0.2        | 28.3      | 28.5        | Other Metal/Alloys            | 32.03                         |                 |                                     |
| Standard Waste Box   | 0.0        | 28.4      |             | Other Inorganic Materials     | 0.00                          |                 |                                     |
|  |            |           |             | Cellulosics                   | 0.00                          |                 |                                     |
| As-Generated Total   | 0.2        | 56.6      | 56.8        | Rubber                        | 0.00                          |                 |                                     |
| Final Form Volumes   |            |           |             | Plastics                      | 1.94                          |                 |                                     |
| ContainerType  | Stored     | Proj.     | Total       | Solidified, Inorganic Matrix  | 0.00                          |                 |                                     |
| 55-Gallon Drum   | 0.2        | 28.3      | 28.5        | Cement (Solidified)           | 0.00                          |                 |                                     |
| Standard Waste Box   | 0.0        |           |             | Vitrified                     | 0.00                          |                 |                                     |
|  |            |           |             | Solidified, Organic Matrix    | 0.00                          |                 |                                     |
| Final Form Total   | 0.2        | 56.6      | 56.8        | Soils                         | 0.00                          |                 |                                     |
|  |            |           |             | Packaging Material, Steel     | 142.47                        |                 |                                     |
|  |            |           |             | Packaging Material, Plastic   | 19.15                         |                 |                                     |
|  |            |           |             | Packaging Material, Lead      | 0.00                          |                 |                                     |
|  |            |           |             | Packaging Material Steel Plug | 0.00                          |                 |                                     |

## **Waste Stream Description**

The waste is generated from R&D/R&D Laboratory Waste activities at the PNNL.

## **Management Comments**

## RL-W731 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W731 Stream Name Repackaged MTRU CH solidified inorganic S3119 Mixed RCRA w/ org Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Solidified Inorganics Waste Matrix Code S3119 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.67                          |
| Other Inorganic Materials      | 3.57                          |
| Cellulosics                    | 4.52                          |
| Rubber                         | 0.00                          |
| Plastics                       | 35.71                         |
| Solidified, Inorganic Matrix   | 40.24                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |  |  |  |
|-------------------------------------|--|--|--|
| 7.91E-05                            |  |  |  |
| 1.84E-01                            |  |  |  |
| 2.15E-03                            |  |  |  |
| 8.85E-06                            |  |  |  |
| 6.34E+00                            |  |  |  |
| 5.80E-06                            |  |  |  |
|                                     |  |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

## RL-W732 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W732 Stream Name Repackaged TRU CH inorganic non-metal S5129 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal Waste Matrix Code S5129 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 30.4  | 30.9  |
|                      | As-Generated Total | 0.4    | 30.4  | 30.9  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 30.4  | 30.9  |
|                    | Final Form Total | 0.4    | 30.4  | 30.9  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 245.24                        |
| Cellulosics                    | 5.71                          |
| Rubber                         | 2.86                          |
| Plastics                       | 20.90                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.02E-01                            |
| Pu-238  | 1.59E-01                            |
| Pu-239  | 1.97E+00                            |
| Pu-240  | 4.38E-01                            |
| Pu-241  | 1.12E+01                            |
| Pu-242  | 2.56E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

## Waste Stream ID: RL-W733 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W733 Stream Name Repackaged TRU CH combustible S5319 Non-mixed

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.6    | 0.0   | 0.6   |
|                      | As-Generated Total | 0.6    | 0.0   | 0.6   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.6    | 0.0   | 0.6   |
|                    | Final Form Total | 0.6    | 0.0   | 0.6   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 10.21                         |
| Aluminum-Base Metal/Alloys     | 1.59                          |
| Other Metal/Alloys             | 0.63                          |
| Other Inorganic Materials      | 10.46                         |
| Cellulosics                    | 10.35                         |
| Rubber                         | 63.05                         |
| Plastics                       | 36.25                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.62E-01                            |
| Cs-137  | 1.15E-04                            |
| Pu-238  | 2.13E-01                            |
| Pu-239  | 2.18E+00                            |
| Pu-240  | 5.46E-01                            |
| Pu-241  | 1.25E+01                            |
| Pu-242  | 4.86E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

### **Management Comments**

## Waste Stream ID: RL-W734 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W734 Stream Name Repackaged MTRU CH combustible S5319 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.4    | 0.0   | 0.4   |
|                      | As-Generated Total | 0.4    | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 107.43                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.11                          |
| Other Inorganic Materials      | 4.55                          |
| Cellulosics                    | 10.64                         |
| Rubber                         | 121.74                        |
| Plastics                       | 66.57                         |
| Solidified, Inorganic Matrix   | 12.71                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.80E+00                            |
| Cs-137  | 3.06E-06                            |
| Pu-238  | 1.06E+00                            |
| Pu-239  | 1.13E+01                            |
| Pu-240  | 2.76E+00                            |
| Pu-241  | 5.58E+01                            |
| Pu-242  | 2.35E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

# Waste Stream ID: RL-W735 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | RL-W735 | Stream Name | Repacka | ged MTRU CH combustible S5319 Mixed RCRA w | / met,Hg                |               | Inventory Date 9/30/2       | 2002 |
|----------|---------|-------------|---------|--|-------------------------|---------------|-----------------------------|------|
| Local ID | N/A     | Handling    | СН      | Final Waste Form Combustible               | Waste Matrix Code S5319 | Activity Cond | centrations Decayed to CY 2 | 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 37.95                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 1.00                          |
| Other Inorganic Materials      | 0.10                          |
| Cellulosics                    | 2.58                          |
| Rubber                         | 359.86                        |
| Plastics                       | 16.48                         |
| Solidified, Inorganic Matrix   | 46.48                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 3.09E+00                            |
| Pu-238  | 1.62E+00                            |
| Pu-239  | 1.77E+01                            |
| Pu-240  | 4.41E+00                            |
| Pu-241  | 8.68E+01                            |
| Pu-242  | 3.80E-04                            |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

### **Management Comments**

## RL-W736 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W736 Stream Name Repackaged TRU CH combustible S5330 Non-mixed

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5330 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 106.38                        |
| Rubber                         | 4.62                          |
| Plastics                       | 17.19                         |
| Solidified, Inorganic Matrix   | 4.62                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 5.76E-03                            |
| Pu-238  | 3.46E-06                            |
| Pu-239  | 1.17E-02                            |
| Pu-240  | 3.04E-03                            |
| Pu-241  | 2.65E-02                            |
| Pu-242  | 3.34E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

### **Management Comments**

## RL-W737 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W737 Stream Name Repackaged TRU CH combustible S5390 Non-mixed

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5390 Activity Concentrations Decayed to CY 2002

### **Final Waste Form Descriptors**

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

## Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.8    | 0.0   | 0.8   |
|                      | As-Generated Total | 0.8    | 0.0   | 0.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.8    | 0.0   | 8.0   |
|                    | Final Form Total | 0.8    | 0.0   | 0.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 24.98                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 17.68                         |
| Cellulosics                    | 63.15                         |
| Rubber                         | 17.70                         |
| Plastics                       | 53.81                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 7.12E-01                            |
| Pu-238  | 3.70E-01                            |
| Pu-239  | 4.19E+00                            |
| Pu-240  | 1.02E+00                            |
| Pu-241  | 1.86E+01                            |
| Pu-242  | 8.67E-05                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

### **Management Comments**

## Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W738 Stream Name Repackaged TRU CH heterogeneous S5420 Non-mixed

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W738** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 2.3    | 0.0   | 2.3   |
|                      | As-Generated Total | 2.3    | 0.0   | 2.3   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 2.3    | 0.0   | 2.3   |
|                    | Final Form Total | 2.3    | 0.0   | 2.3   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 131.99                        |
| Aluminum-Base Metal/Alloys     | 7.23                          |
| Other Metal/Alloys             | 3.46                          |
| Other Inorganic Materials      | 57.84                         |
| Cellulosics                    | 11.45                         |
| Rubber                         | 3.51                          |
| Plastics                       | 38.28                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 9.94E-01                            |
| Pu-238  | 4.64E-01                            |
| Pu-239  | 4.85E+00                            |
| Pu-240  | 1.28E+00                            |
| Pu-241  | 2.46E+01                            |
| Pu-242  | 1.12E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

### **Management Comments**

## Waste Stream ID: RL-W739 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W739 Stream Name Repackaged MTRU CH heterogeneous S5420 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 381.48                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 20.95                         |
| Cellulosics                    | 3.81                          |
| Rubber                         | 10.95                         |
| Plastics                       | 45.43                         |
| Solidified, Inorganic Matrix   | 48.57                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 8.75E-01                            |
| Pu-238  | 4.50E-01                            |
| Pu-239  | 8.65E+00                            |
| Pu-240  | 1.99E+00                            |
| Pu-241  | 2.46E+01                            |
| Pu-242  | 1.44E-04                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

HQ ID RL-W740 Stream Name Repackaged TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W740** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 13.2   | 0.0   | 13.2  |
|                      | As-Generated Total | 13.2   | 0.0   | 13.2  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 13.2   | 0.0   | 13.2  |
|                    | Final Form Total | 13.2   | 0.0   | 13.2  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 32.71                         |
| Aluminum-Base Metal/Alloys     | 10.15                         |
| Other Metal/Alloys             | 1.30                          |
| Other Inorganic Materials      | 33.58                         |
| Cellulosics                    | 27.23                         |
| Rubber                         | 11.66                         |
| Plastics                       | 62.55                         |
| Solidified, Inorganic Matrix   | 0.55                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.04                          |
| Soils                          | 0.02                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.90E-01                            |
| Cs-137  | 4.88E-07                            |
| Pu-238  | 2.61E-01                            |
| Pu-239  | 3.35E+00                            |
| Pu-240  | 8.76E-01                            |
| Pu-241  | 1.97E+01                            |
| Pu-242  | 9.61E-05                            |
| U-235   | 1.05E-08                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

HQ ID RL-W741 Stream Name Repackaged MTRU CH heterogeneous S5440 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |         |        |       |       |
|----------------------|---------|--------|-------|-------|
| ContainerType        | (       | Stored | Proj. | Total |
| 55 Gallon Drum       |         | 1.0    | 0.0   | 1.0   |
| As-Gonerator         | 1 Total | 1.0    | 0.0   | 1.0   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 1.0    | 0.0   | 1.0   |
|                    | Final Form Total | 1.0    | 0.0   | 1.0   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 82.24                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.57                          |
| Other Inorganic Materials      | 38.38                         |
| Cellulosics                    | 12.99                         |
| Rubber                         | 30.93                         |
| Plastics                       | 38.08                         |
| Solidified, Inorganic Matrix   | 0.76                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.93E+01                            |
| Pu-238  | 7.76E+00                            |
| Pu-239  | 8.21E+00                            |
| Pu-240  | 5.86E+00                            |
| Pu-241  | 1.87E+02                            |
| Pu-242  | 4.61E-03                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

HQ ID RL-W742 Stream Name Repackaged MTRU CH heterogeneous S5440 Mixed RCRA w/ met,Hg Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W742** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 8.52                          |
| Other Inorganic Materials      | 4.48                          |
| Cellulosics                    | 15.29                         |
| Rubber                         | 2.24                          |
| Plastics                       | 78.10                         |
| Solidified, Inorganic Matrix   | 0.30                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 2.98E+00                            |
| 1.17E+00                            |
| 1.33E+01                            |
| 3.16E+00                            |
| 8.02E+01                            |
| 2.67E-04                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

HQ ID RL-W743 Stream Name Repackaged MTRU CH heterogeneous S5490 Mixed RCRA w/ org Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55 Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 44.73                         |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 26.67                         |
| Solidified, Inorganic Matrix   | 9.52                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.03E-02                            |
| Cs-137  | 5.98E-01                            |
| Pu-238  | 3.17E-04                            |
| Pu-239  | 8.62E-03                            |
| Sr-90   | 1.71E-01                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

# Waste Stream ID: RL-W744 Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

HQ ID RL-W744 Stream Name Repackaged TRU CH heterogeneous S5440 Non-mixed

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| 55-Gallon Drum       |                    | 0.2    | 0.0   | 0.2   |
|                      | As-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 34.53                         |
| Cellulosics                    | 39.15                         |
| Rubber                         | 14.42                         |
| Plastics                       | 44.67                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 98.88                         |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Pu-239  | 4.34E-01                            |
| Pu-240  | 3.71E-01                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the REPACKAGED WASTE.

#### **Management Comments**

| -        |         |             | _        |  |                         |               |                                |
|----------|---------|-------------|----------|--|-------------------------|---------------|--------------------------------|
| HQ ID    | RL-W745 | Stream Name | Tank Far | ms MTRU CH solidified inorganic S3119 Mixed RC | CRA w/ met              |               | Inventory Date 9/30/2002       |
| Local ID | N/A     | Handling    | CH       | Final Waste Form Solidified Inorganics         | Waste Matrix Code S3119 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

**RL-W745** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |           |       |       |
|----------------------|-----------|-------|-------|
| ContainerType        | Stored    | Proj. | Total |
| 55 Gallon Drum       | 0.        | 2 0.0 | 0.2   |
| As-Generated         | I Total 0 | 2 0.0 | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 228.57                        |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.14                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 1.76                          |
| Rubber                         | 0.00                          |
| Plastics                       | 1.33                          |
| Solidified, Inorganic Matrix   | 428.57                        |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| adionaciaes                         |
|-------------------------------------|
| Typical<br>Concentration<br>(Ci/m3) |
| 6.86E-03                            |
| 2.22E-03                            |
| 8.32E-02                            |
| 1.86E-02                            |
| 2.75E-01                            |
| 1.12E-06                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

HQ ID RL-W746 Stream Name Tank Farms MTRU CH heterogeneous S5420 Mixed RCRA w/ met Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W746** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |              |     |       |       |
|----------------------|--------------|-----|-------|-------|
| ContainerType        | Store        | d   | Proj. | Total |
| 55 Gallon Drum       | (            | ).4 | 0.0   | 0.4   |
| As-Gone              | erated Total | 14  | 0.0   | 0.4   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
|                    | Final Form Total | 0.4    | 0.0   | 0.4   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 9.76                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 178.33                        |
| Other Inorganic Materials      | 15.24                         |
| Cellulosics                    | 66.67                         |
| Rubber                         | 18.10                         |
| Plastics                       | 9.29                          |
| Solidified, Inorganic Matrix   | 17.38                         |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 1.32E-02                            |
| Pu-238  | 4.27E-03                            |
| Pu-239  | 1.60E-01                            |
| Pu-240  | 3.59E-02                            |
| Pu-241  | 5.30E-01                            |
| Pu-242  | 2.16E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

| -        | _       |             | _        |   |                         |               |                                |
|----------|---------|-------------|----------|---|-------------------------|---------------|--------------------------------|
| HQ ID    | RL-W747 | Stream Name | Tank Far | ms MTRU CH heterogeneous S5440 Mixed RCRA | . w/ met                |               | Inventory Date 9/30/2002       |
| Local ID | N/A     | Handling    | CH       | Final Waste Form Heterogeneous Debris     | Waste Matrix Code S5440 | Activity Cond | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

**RL-W747** 

Category: Defense TRU Waste

Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                   |        |       |       |
|----------------------|-------------------|--------|-------|-------|
| ContainerType        |                   | Stored | Proj. | Total |
| 55 Gallon Drum       |                   | 0.2    | 0.0   | 0.2   |
| Д                    | s-Generated Total | 0.2    | 0.0   | 0.2   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 0.2    | 0.0   | 0.2   |
|                    | Final Form Total | 0.2    | 0.0   | 0.2   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 62.40                         |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 68.40                         |
| Rubber                         | 24.00                         |
| Plastics                       | 14.40                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 7.16E-02                            |
| 2.31E-02                            |
| 8.67E-01                            |
| 1.94E-01                            |
| 2.87E+00                            |
| 1.17E-05                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

HQ ID RL-W748 Stream Name Tank Farms TRU CH uncategorized metal S5119 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Uncategorized Metal Waste Matrix Code S5119 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**RL-W748** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Standard Waste Box   |                    | 13.2   | 0.0   | 13.2  |
|                      | As-Generated Total | 13.2   | 0.0   | 13.2  |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| Standard Waste Box | 13.2   | 0.0   | 13.2  |
|                    |        |       |       |

**Final Form Total** 13.2 0.0 13.2

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 272.59                        |
| Other Inorganic Materials      | 8.36                          |
| Cellulosics                    | 3.41                          |
| Rubber                         | 0.87                          |
| Plastics                       | 12.16                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| 1 11101 1 01111 | rtadionaciacs                       |
|-----------------|-------------------------------------|
| Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| Am-241          | 7.14E+00                            |
| Pu-238          | 1.03E+00                            |
| Pu-239          | 2.28E-02                            |
| Pu-240          | 3.77E-02                            |
| Pu-241          | 3.42E+02                            |
| Pu-242          | 3.49E-07                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

HQ ID RL-W749 Stream Name Tank Farms TRU CH combustible S5319 Non-mixed

Local ID N/A Handling CH Final Waste Form Combustible Waste Matrix Code S5319 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Standard Waste Box   | 3.8    | 0.0   | 3.8   |
| As-Generated Tota    | 3.8    | 0.0   | 3.8   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| Standard Waste Box |                  | 3.8    | 0.0   | 3.8   |
|                    | Final Form Total | 3.8    | 0.0   | 3.8   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 4.06                          |
| Other Inorganic Materials      | 6.09                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 108.09                        |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 154.00                        |
| Packaging Material, Plastic    | 1.20                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| i iliai i oi ili itaalollaollaos |                                     |  |  |
|----------------------------------|-------------------------------------|--|--|
| Isotope                          | Typical<br>Concentration<br>(Ci/m3) |  |  |
| Am-241                           | 3.55E-02                            |  |  |
| Pu-238                           | 1.10E-02                            |  |  |
| Pu-239                           | 4.18E-01                            |  |  |
| Pu-240                           | 9.35E-02                            |  |  |
| Pu-241                           | 1.28E+00                            |  |  |
| Pu-242                           | 5.63E-06                            |  |  |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

37.00

0.00

0.00

Packaging Material, Plastic Packaging Material, Lead

Packaging Material, Steel Plug

### Waste Stream ID: RL-W750

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W750 Stream Name Tank Farms TRU CH com   | nbustible S | 5330 Non  | -mixed   |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-------------|-----------|----------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa   | ste Form    | Combustib | le       | Waste Matrix Code S5330      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |           |          | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste  Source: Facility/Equipment Waste  Waste Volume Detail (m3) | t Operation | and Mair  | ntenance | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| , ,   |             |           |          | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 3.83E+02                            |
| As-Generated Volumes  |             |           |          | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 4.95E+01                            |
| ContainerType   | Stored      | Proj.     | Total    | Other Metal/Alloys           | 0.00                          | Pu-239     | 1.19E+00                            |
| 55-Gallon Drum  | 0.4         | 0.0       | 0.4      | Other Inorganic Materials    | 0.00                          | Pu-240     | 1.96E+00                            |
| As-Generated Total  | 0.4         | 0.0       | 0.4      | Cellulosics                  | 107.83                        | Pu-241     | 1.54E+04                            |
|   | l .         |           |          | Rubber                       | 4.24                          | Pu-242     | 1.83E-05                            |
| Final Form Volumes  |             |           |          | Plastics                     | 7.27                          |            |                                     |
| ContainerType   | Stored      | Proj.     | Total    | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
| 55-Gallon Drum  | 0.4         | 0.0       | 0.4      | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.4         | 0.0       | 0.4      | Vitrified                    | 0.00                          |            |                                     |
|   |             |           |          | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |             |           |          | Soils                        | 0.00                          |            |                                     |
|   |             |           |          | Packaging Material, Steel    | 131.00                        |            |                                     |

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

### **Management Comments**

### Waste Stream ID: RL-W751

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID RL-W751 Stream Name Tank Farms TRU CH con             | nbustible S | 5390 Non- | -mixed      |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-------------|-----------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final Wa                           | ste Form    | Combustib | le          | Waste Matrix Code S5390      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                |             |           |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Facility/Equipmen Waste | t Operatior | and Mair  | itenance    | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| Waste Volume Detail (m3)                                    |             |           | <del></del> | Iron-Base Metal/Alloys       | 0.00                          | Am-241     | 6.92E+02                            |
| As-Generated Volumes  | 1           | ,         |             | Aluminum-Base Metal/Alloys   | 0.00                          | Pu-238     | 8.93E+01                            |
| ContainerType   | Stored      | Proj.     | Total       | Other Metal/Alloys           | 0.00                          | Pu-239     | 2.14E+00                            |
| 55-Gallon Drum  | 0.2         | 0.0       | 0.2         | Other Inorganic Materials    | 0.00                          | Pu-240     | 3.55E+00                            |
| As-Generated Total  | 0.2         | 0.0       | 0.2         | Cellulosics                  | 89.90                         | Pu-241     | 2.78E+04                            |
|   |             |           |             | Rubber                       | 33.93                         | Pu-242     | 3.30E-05                            |
| Final Form Volumes  |             |           |             | Plastics                     | 4.36                          |            |                                     |
| ContainerType   | Stored      | Proj.     | Total       | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
| 55-Gallon Drum  | 0.2         | 0.0       | 0.2         | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.2         | 0.0       | 0.2         | Vitrified                    | 0.00                          |            |                                     |
|   |             |           |             | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |             |           |             | Soils                        | 0.00                          |            |                                     |
|   |             |           |             | Packaging Material, Steel    | 131.00                        |            |                                     |

Packaging Material, Plastic

Packaging Material, Steel Plug

Packaging Material, Lead

37.00

0.00

0.00

### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

### **Management Comments**

HQ ID RL-W752 Stream Name Tank Farms TRU CH heterogeneous S5420 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5420 Activity Concentrations Decayed to CY 2002

#### **Final Waste Form Descriptors**

**RL-W752** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 0.4    | 0.0   | 0.4   |
| Standard Waste Box   | 9.4    | 0.0   | 9.4   |
| As-Generated Total   | 9.9    | 0.0   | 9.9   |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 0.4    | 0.0   | 0.4   |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 9.9    | 0.0   | 9.9   |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 7.30                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 304.86                        |
| Other Inorganic Materials      | 35.03                         |
| Cellulosics                    | 4.31                          |
| Rubber                         | 1.93                          |
| Plastics                       | 22.85                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 153.03                        |
| Packaging Material, Plastic    | 2.71                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Typical<br>Concentration<br>(Ci/m3) |
|-------------------------------------|
| 6.35E+00                            |
| 8.19E-01                            |
| 1.97E-02                            |
| 3.25E-02                            |
| 2.54E+02                            |
| 3.03E-07                            |
|                                     |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

HQ ID RL-W753 Stream Name Tank Farms TRU CH heterogeneous S5440 Non-mixed Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5440 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

Category: Defense TRU Waste Source: Facility/Equipment Operation and Maintenance Waste

### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| 55-Gallon Drum       | 2.7    | 0.0   | 2.7   |
| Standard Waste Box   | 9.4    | 0.0   | 9.4   |
| As-Generated Total   | 12.2   | 0.0   | 12.2  |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55-Gallon Drum     |                  | 2.7    | 0.0   | 2.7   |
| Standard Waste Box |                  | 9.4    | 0.0   | 9.4   |
|                    | Final Form Total | 12.2   | 0.0   | 12.2  |

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 8.85                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 161.54                        |
| Other Inorganic Materials      | 4.26                          |
| Cellulosics                    | 25.26                         |
| Rubber                         | 7.33                          |
| Plastics                       | 49.55                         |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 148.88                        |
| Packaging Material, Plastic    | 9.16                          |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### **Final Form Radionuclides**

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 6.93E+01                            |
| Pu-238  | 8.95E+00                            |
| Pu-239  | 2.15E-01                            |
| Pu-240  | 3.55E-01                            |
| Pu-241  | 2.78E+03                            |
| Pu-242  | 3.31E-06                            |

#### **Waste Stream Description**

The waste is generated from Facility/Equipment Operation and Maintenance Waste activities at the TANK FARMS.

#### **Management Comments**

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

|          | ste Form Descrip |             |         |  | Waste Material Parameters |               | Final Form Radionuclio   |               |   |
|----------|------------------|-------------|---------|--|---------------------------|---------------|--------------------------|---------------|---|
| Local ID | N/A              | Handling    | RH      | Final Waste Form Solidified Inorganics | Waste Matrix Code L1220   | Activity Cond | centrations Decayed to C | <b>Y</b> 2002 | ĺ |
| HQ ID    | N/A              | Stream Name | PFP TRU | J Solids                               |                           |               | Inventory Date 9/3       | 30/2002       | ĺ |

#### Final waste Form Descriptors

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Tank / Misc Sizes    |                    | 270.0  | 0.0   | 270.0 |
|                      | As-Generated Total | 270.0  | 0.0   | 270.0 |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| RH Canister        | 525.1  | 0.0   | 525.1 |
|                    |        |       |       |

Final Form Total 525.1 0.0 525.1

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 1.02                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 526.00                        |
| Packaging Material, Plastic    | 26.00                         |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 4.58E+00                            |
| Cs-137  | 9.30E+01                            |
| Np-237  | 1.14E-03                            |
| Pu-238  | 3.42E-04                            |
| Pu-239  | 5.84E+00                            |
| Pu-240  | 1.31E+00                            |
| Pu-241  | 3.42E+01                            |
| Pu-242  | 3.13E-04                            |
| Sr-90   | 9.59E+01                            |
| U-233   | 6.52E-04                            |
| U-234   | 3.64E-04                            |
| U-235   | 1.53E-05                            |
| U-236   | 8.80E-06                            |
| U-238   | 3.05E-04                            |

#### **Waste Stream Description**

Solidified aqueous waste slurry.

#### **Management Comments**

Waste will be packaged with an absorbent for neutralization

Waste is currently RH; however, it may be, if cost effective, processed resulting in CH final waste form. Total volume of stream is 371 m3 in final waste form and 270 m3 in interim waste form. The difference in the volume between the final and interim for is the addition of absorbent. Projected waste is planned, but the amount has yet to be determined.

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID    | N/A | Stream Name | PUREX | TRU Cladding Removal Solids            |                         |              | Inventory Date 9/30/2002       |
|----------|-----|-------------|-------|--|-------------------------|--------------|--------------------------------|
| Local ID | N/A | Handling    | RH    | Final Waste Form Solidified Inorganics | Waste Matrix Code L1220 | Activity Con | centrations Decayed to CY 2002 |

#### **Final Waste Form Descriptors**

Category: Defense TRU Waste Source: Materials Production/Recovery Effluents

#### Waste Volume Detail (m3)

| As-Generated Volumes |                    |        |       |        |
|----------------------|--------------------|--------|-------|--------|
| ContainerType        |                    | Stored | Proj. | Total  |
| Tank / Misc Sizes    |                    | 2030.0 | 0.0   | 2030.0 |
|                      | As-Generated Total | 2030.0 | 0.0   | 2030.0 |

| Final Form Volumes |        |       |        |
|--------------------|--------|-------|--------|
| ContainerType      | Stored | Proj. | Total  |
| RH Canister        | 3943.6 | 0.0   | 3943.6 |

Final Form Total

3943.6

0.0

3943.6

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 0.00                          |
| Aluminum-Base Metal/Alloys     | 0.00                          |
| Other Metal/Alloys             | 0.00                          |
| Other Inorganic Materials      | 0.00                          |
| Cellulosics                    | 0.00                          |
| Rubber                         | 0.00                          |
| Plastics                       | 0.00                          |
| Solidified, Inorganic Matrix   | 0.89                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 526.00                        |
| Packaging Material, Plastic    | 0.00                          |
| Packaging Material, Lead       | 464.00                        |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Isotope | Typical<br>Concentration<br>(Ci/m3) |
|---------|-------------------------------------|
| Am-241  | 2.28E+00                            |
| Cs-137  | 1.91E+01                            |
| Np-237  | 9.30E-06                            |
| Pu-238  | 2.51E-03                            |
| Pu-239  | 2.82E-01                            |
| Pu-240  | 8.52E-02                            |
| Pu-241  | 8.95E-02                            |
| Pu-242  | 1.31E-05                            |
| Sr-90   | 6.28E+00                            |
| U-233   | 4.92E-04                            |
| U-234   | 3.66E-03                            |
| U-235   | 1.39E-04                            |
| U-236   | 2.97E-04                            |
| U-238   | 3.21E-02                            |

#### **Waste Stream Description**

Solidified aqueous waste slurry

#### **Management Comments**

Waste will be packaged with an absorbent for neutralization.

Waste is currently RH; however, it may be, if cost effective, processed resulting in CH final waste form. Total volume of stream is 2791 m3 in final waste form and 2030 m3 in interim waste form. The difference in the volume between the final and interim for is the addition of absorbent.

### Waste Stream ID: RP-W754

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID         N/A         Stream Name         224 Waste           Local ID         N/A         Handling         CH         Final Waste | ste Form S | Solidified I | norganics | Waste Matrix Code L1220        | Activity Co                   |            | ory Date 9/30/200                   |
|--|------------|--------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors   |            |              |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Production Waste Volume Detail (m3)  | on/Recove  | ry Effluen   | ts        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |              |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241     | 5.01E-02                            |
| ContainerType  | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137     | 1.73E-01                            |
| Tank / Misc Sizes  | 1079.0     | 0.0          | 1079.0    | Other Metal/Alloys             | 0.00                          | Np-237     | 2.02E-07                            |
|  |            |              |           | Other Inorganic Materials      | 1.12                          | Pu-238     | 9.31E-03                            |
| As-Generated Total   | 1079.0     | 0.0          | 1079.0    | Cellulosics                    | 0.00                          | Pu-239     | 1.25E+00                            |
| Final Form Volumes   |            |              |           | Rubber                         | 0.00                          | Pu-240     | 1.03E-01                            |
| ContainerType  | Stored     | Proj.        | Total     | Plastics                       | 0.00                          | Pu-241     | 2.10E-01                            |
| 55 Gallon Drum   | 1484.1     | 0.0          | 1484.1    | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 4.14E-06                            |
|  |            |              |           | Cement (Solidified)            | 0.00                          | Sr-90      | 4.24E+00                            |
| Final Form Total   | 1484.1     | 0.0          | 1484.1    | Vitrified                      | 0.00                          | U-233      | 1.83E-10                            |
|  |            |              |           | Solidified, Organic Matrix     | 0.00                          | U-234      | 2.38E-04                            |
|  |            |              |           | Soils                          | 0.00                          | U-235      | 9.96E-06                            |
|  |            |              |           | Packaging Material, Steel      | 120.00                        | U-236      | 2.23E-06                            |
|  |            |              |           | Packaging Material, Plastic    | 0.00                          | U-238      | 2.26E-04                            |
|  |            |              |           | Packaging Material, Lead       | 0.00                          | L          | ( <b>4</b> )                        |
|  |            |              |           | Packaging Material, Steel Plug | 0.00                          |            |                                     |
|  |            |              |           |                                |                               |            |                                     |

#### **Waste Stream Description**

Solidified aqueous waste slurry.

#### **Management Comments**

Waste will be packaged with an absorbent for neutralization.

Total volume of stream is 1484 m3 in final waste form and 1079 m3 in interim waste form. The difference in the volume between the final and interim for is the addition of absorbent. This stream has the potential to receive an additional 396,000 gallons (1397 m3) of as stored waste. On packaging the waste, the volume would increase to 500,000 gallons (1893 m3) of waste.

# Waste Stream ID: RP-W755

### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID N/A Stream Name Bismuth Phosphate Pro  | cess TRU S      | olids        |           |                                |                               | Invent     | ory Date 9/30/2002                  |
|--|-----------------|--------------|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID N/A Handling CH Final W   | aste Form       | Solidified I | norganics | Waste Matrix Code L1220        | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |                 |              |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Materials Production  Waste Volume Detail (m3) | ction/Recove    | ery Effluen  | ts        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |                 |              |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241     | 1.81E-01                            |
| ContainerType  | Stored          | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137     | 4.71E-01                            |
| Tank / Misc Sizes  | 1780.0          |              |           | Other Metal/Alloys             | 0.00                          | Np-237     | 1.20E-06                            |
|  |                 |              |           | Other Inorganic Materials      | 0.00                          | Pu-238     | 3.38E-03                            |
| As-Generated Tota  | <b>I</b> 1780.0 | 0.0          | 1780.0    | Cellulosics                    | 0.00                          | Pu-239     | 5.69E-01                            |
| Final Form Volumes   |                 |              |           | Rubber                         | 0.00                          | Pu-240     | 4.72E-02                            |
| ContainerType  | Stored          | Proj.        | Total     | Plastics                       | 0.00                          | Pu-241     | 9.53E-02                            |
| 55 Gallon Drum   | 2448.0          |              | 2448.0    | Solidified, Inorganic Matrix   | 1.13                          | Pu-242     | 6.36E-07                            |
|  |                 |              | <u> </u>  | Cement (Solidified)            | 0.00                          | Sr-90      | 1.89E+01                            |
| Final Form Tota  | <b>1</b> 2448.0 | 0.0          | 2448.0    | Vitrified                      | 0.00                          | U-233      | 4.47E-09                            |
|  |                 |              |           | Solidified, Organic Matrix     | 0.00                          | U-234      | 5.16E-03                            |
|  |                 |              |           | Soils                          | 0.00                          | U-235      | 2.30E-04                            |
|  |                 |              |           | Packaging Material, Steel      | 120.00                        | U-236      | 4.15E-05                            |
|  |                 |              |           | Packaging Material, Plastic    | 0.00                          | U-238      | 5.27E-03                            |
|  |                 |              |           | Packaging Material, Lead       | 0.00                          |            |                                     |
|  |                 |              |           | Packaging Material, Steel Plug | 0.00                          |            |                                     |

### **Waste Stream Description**

Solidified aqueous waste slurry

### **Management Comments**

Waste will be packaged with an absorbent for neutralization

Total volume of stream is 2248 m3 in final waste form and 1780 m3 in interim waste form. The difference in the volume between the final and interim for is the addition of absorbent.

### Waste Stream ID: SA-T001

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SA-T001 Stream Name Lovelace ITRI Waste Stre Local ID NA Handling CH Final Was |           | Heterogen | eous Debris | Waste Matrix Code S5000        | Activity Co                   |         | cory Date 9/30/2002<br>ecayed to CY 2002 |
|--|-----------|-----------|-------------|--------------------------------|-------------------------------|---------|--|
| Final Waste Form Descriptors   | _         |           |             | Waste Material Parameters      | 7.c <b>y</b> 0.c              |         | Radionuclides                            |
| Category: Defense TRU Waste Source: R&D/R&D Laborate  Waste Volume Detail (m3)       | ory Waste |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3)      |
| As-Generated Volumes   |           |           |             | Iron-Base Metal/Alloys         | 100.00                        | Am-241  | 1.68E-01                                 |
| ContainerType  | Stored    | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 3.00                          | Cm-244  | 8.83E-01                                 |
| Drum / 55-gallon   | 5.4       | 0.0       |             | Other Metal/Alloys             | 6.00                          | Np-237  | 3.34E-06                                 |
| · ·  |           |           |             | Other Inorganic Materials      | 15.00                         | Pu-238  | 3.66E-02                                 |
| As-Generated Total   | 5.4       | 0.0       | 5.4         | Cellulosics                    | 3.00                          | Pu-239  | 5.60E-01                                 |
| Final Form Volumes   |           |           |             | Rubber                         | 5.00                          | Pu-240  | 8.75E-04                                 |
| ContainerType  | Stored    | Proj.     | Total       | Plastics                       | 5.00                          | Th-229  | 4.49E-14                                 |
| 55 Gallon Drum   | 5.4       | 0.0       |             | Solidified, Inorganic Matrix   | 40.00                         | Th-230  | 3.12E-11                                 |
|  |           |           |             | Cement (Solidified)            | 0.00                          | Th-232  | 7.30E-04                                 |
| Final Form Total   | 5.4       | 0.0       | 5.4         | Vitrified                      | 0.00                          | U-233   | 1.15E-10                                 |
|  |           |           |             | Solidified, Organic Matrix     | 5.00                          | U-234   | 8.58E-07                                 |
|  |           |           |             | Soils                          | 0.00                          | U-235   | 4.42E-09                                 |
|  |           |           |             | Packaging Material, Steel      | 100.00                        | U-236   | 1.09E-10                                 |
|  |           |           |             | Packaging Material, Plastic    | 37.00                         |         |  |
|  |           |           |             | Packaging Material, Lead       | 0.00                          |         |  |
|  |           |           |             | Packaging Material, Steel Plug | 0.00                          |         |  |

### **Management Comments**

Waste is in final form.

This waste stream has been characterized by process knowledge as TRU waste. The waste is not mixed.

#### SA-W134 Waste Stream ID:

# Appendix J

| TRU V   | VASTE E    | BASELIN | NE INVENT   | ORY WASTE PROFILE            |                               |            |   |
|---|------------|---------|-------------|------------------------------|-------------------------------|------------|---|
| HQ ID SA-W134 Stream Name Transuranic Waste at Hot Local ID NA Handling CH Final Wa |            | •       | eous Debris | Waste Matrix Code S5490      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
| Final Waste Form Descriptors  |            |         |             | Waste Material Parameters    |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3)         | tory Waste |         |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |            |         |             | Iron-Base Metal/Alloys       | 80.00                         | Am-241     | 4.50E-01                                |
| ContainerType   | Stored     | Proj.   | Total       | Aluminum-Base Metal/Alloys   | 5.00                          | Am-243     | 7.64E-04                                |
| Box /7' x 4' x 4'   | 12.7       |         |             | Other Metal/Alloys           | 10.00                         | Cm-244     | 1.16E-04                                |
| Can / Stainless Steel / 2 gallon  | 0.0        | 0.0     | 0.0         | Other Inorganic Materials    | 1.00                          | Cs-137     | 4.30E+00                                |
| Drum / 10 gallon  | 0.1        | 0.0     | 0.1         | Cellulosics                  | 2.00                          | Np-237     | 7.77E-03                                |
| Drum / 14 gallon  | 0.1        | 0.0     | 0.1         | Rubber                       | 2.00                          | Pu-238     | 8.43E-02                                |
| Drum / 20 gallon  | 0.1        | 0.0     |             | Plastics                     | 5.00                          | Pu-239     | 8.64E-02                                |
| Drum / 30 gallon  | 0.5        |         |             | Solidified, Inorganic Matrix | 0.00                          | Pu-240     | 2.74E-02                                |
| Drum / 5 gallon   | 0.1        | 0.0     |             | Cement (Solidified)          | 0.00                          | Pu-241     | 3.71E-01                                |
| Drum / 55-gallon  | 3.7        |         |             | Vitrified                    | 0.00                          | Pu-242     | 4.23E-09                                |
| Drum / 85 gallon  | 0.3        |         |             | Solidified, Organic Matrix   | 0.00                          | Sr-90      | 4.07E+00                                |
|   | . 0.0      | . 0.0   | 0.0         |                              |                               |            |   |

| As-Generated Total | 17.5 | 0.0 | 17.5 |
|--------------------|------|-----|------|
|                    |      |     |      |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 16.0   | 0.0   | 16.0  |
|                    | Final Form Total | 16.0   | 0.0   | 16.0  |

| vvaste iviateriai Faranneters  |                               |  |  |  |  |
|--------------------------------|-------------------------------|--|--|--|--|
| Material Parameter             | Average<br>Density<br>(kg/m3) |  |  |  |  |
| Iron-Base Metal/Alloys         | 80.00                         |  |  |  |  |
| Aluminum-Base Metal/Alloys     | 5.00                          |  |  |  |  |
| Other Metal/Alloys             | 10.00                         |  |  |  |  |
| Other Inorganic Materials      | 1.00                          |  |  |  |  |
| Cellulosics                    | 2.00                          |  |  |  |  |
| Rubber                         | 2.00                          |  |  |  |  |
| Plastics                       | 5.00                          |  |  |  |  |
| Solidified, Inorganic Matrix   | 0.00                          |  |  |  |  |
| Cement (Solidified)            | 0.00                          |  |  |  |  |
| Vitrified                      | 0.00                          |  |  |  |  |
| Solidified, Organic Matrix     | 0.00                          |  |  |  |  |
| Soils                          | 0.00                          |  |  |  |  |
| Packaging Material, Steel      | 131.00                        |  |  |  |  |
| Packaging Material, Plastic    | 37.00                         |  |  |  |  |
| Packaging Material, Lead       | 0.00                          |  |  |  |  |
| Packaging Material, Steel Plug | 0.00                          |  |  |  |  |
| L                              |                               |  |  |  |  |

| Isotope | (Ci/m3)  |
|---------|----------|
| Am-241  | 4.50E-01 |
| Am-243  | 7.64E-04 |
| Cm-244  | 1.16E-04 |
| Cs-137  | 4.30E+00 |
| Np-237  | 7.77E-03 |
| Pu-238  | 8.43E-02 |
| Pu-239  | 8.64E-02 |

#### Th-230 4.68E-07 Th-232 5.01E-19 U-233 1.31E-04 U-234 1.04E-02 U-235 6.78E-04 U-236 4.06E-09 U-238 4.97E-04

6.15E-08

Th-229

### **Waste Stream Description**

Heterogeneous Debris from SNL/NM Hot Cell Facility D&D project and other miscellaneous waste generators.

#### **Management Comments**

8 drums of tru waste are estimated to be generated with the FY1996 hot cell decontamination project. This is a one time generation.

HQ ID N/A Stream Name Mixed-TRU Waste from SNL/NM - Contact Handled Inventory Date 9/30/2002

Local ID N/A Handling CH Final Waste Form Heterogeneous Debris Waste Matrix Code S5490 Activity Concentrations Decayed to CY 2002

**Final Waste Form Descriptors** 

**SA-W134M** 

Category: Defense TRU Waste Source: R&D/R&D Laboratory Waste

#### Waste Volume Detail (m3)

Waste Stream ID:

| As-Generated Volumes |                    |        |       |       |
|----------------------|--------------------|--------|-------|-------|
| ContainerType        |                    | Stored | Proj. | Total |
| Drum / 55 gallon     |                    | 2.1    | 0.0   | 2.1   |
|                      | As-Generated Total | 2.1    | 0.0   | 2.1   |

| Final Form Volumes |        |       |       |
|--------------------|--------|-------|-------|
| ContainerType      | Stored | Proj. | Total |
| 55 Gallon Drum     | 2.1    | 0.0   | 2.1   |
|                    |        |       |       |

Final Form Total

2.1

0.0

2.1

#### **Waste Material Parameters**

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 80.00                         |
| Aluminum-Base Metal/Alloys     | 5.00                          |
| Other Metal/Alloys             | 10.00                         |
| Other Inorganic Materials      | 1.00                          |
| Cellulosics                    | 2.00                          |
| Rubber                         | 2.00                          |
| Plastics                       | 5.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Final Form Radionuclides

| Final Form Radionuclides            |  |  |  |  |  |  |
|-------------------------------------|--|--|--|--|--|--|
| Typical<br>Concentration<br>(Ci/m3) |  |  |  |  |  |  |
| 4.50E-01                            |  |  |  |  |  |  |
| 7.64E-04                            |  |  |  |  |  |  |
| 1.16E-04                            |  |  |  |  |  |  |
| 4.30E+00                            |  |  |  |  |  |  |
| 7.77E-03                            |  |  |  |  |  |  |
| 8.43E-02                            |  |  |  |  |  |  |
| 8.64E-02                            |  |  |  |  |  |  |
| 2.74E-02                            |  |  |  |  |  |  |
| 3.71E-01                            |  |  |  |  |  |  |
| 4.23E-09                            |  |  |  |  |  |  |
| 4.07E+00                            |  |  |  |  |  |  |
| 6.15E-08                            |  |  |  |  |  |  |
| 4.68E-07                            |  |  |  |  |  |  |
| 5.01E-19                            |  |  |  |  |  |  |
| 1.31E-04                            |  |  |  |  |  |  |
| 1.04E-02                            |  |  |  |  |  |  |
| 6.78E-04                            |  |  |  |  |  |  |
| 4.06E-09                            |  |  |  |  |  |  |
| 4.97E-04                            |  |  |  |  |  |  |
|                                     |  |  |  |  |  |  |

#### **Waste Stream Description**

Heterogeneous debris from SNL/NM Hot Cell Facility D&D project and other Miscellaneous waste generators.

#### **Management Comments**

### Waste Stream ID: SA-W135

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID                        | N/A               | Stream Name  | ΓRU Was  | te from SNL/NM - Remote Handled       |                          |                    | Inventor        | y Date 9/30/2002         |
|------------------------------|-------------------|--------------|----------|---------------------------------------|--------------------------|--------------------|-----------------|--------------------------|
| Local ID                     | N/A               | Handling     | RH       | Final Waste Form Heterogeneous Debris | Waste Matrix Code S5490  | Activity Con       | centrations Dec | ayed to CY 2002          |
| Final Waste Form Descriptors |                   |              |          | Waste Material Parameters             | Final Form Radionuclides |                    |                 |                          |
| Categ                        | ory: Defense Ti   | RU Waste Sou | urce: R8 | kD/R&D Laboratory Waste               |                          | Average            |                 | Typical                  |
| Waste V                      | olume Detail (m3) | )            |          |                                       | Material Parameter       | Density<br>(kg/m3) | Isotope         | Concentration<br>(Ci/m3) |

| As-Generated Volumes |        |       |       |
|----------------------|--------|-------|-------|
| ContainerType        | Stored | Proj. | Total |
| Cask / Lead lined    | 3.9    | 0.0   | 3.9   |
| Drum / 55 gallon     | 0.4    | 0.0   | 0.4   |
| Lead Pig             | 0.1    | 0.0   | 0.1   |
|                      |        |       |       |

| As-Generated Total     | 4.4 | 0.0 | 4.4 |
|------------------------|-----|-----|-----|
| 7 to 00.10. atoa 10ta. |     |     |     |

| Final Form Volumes |                  |        |       |       |
|--------------------|------------------|--------|-------|-------|
| ContainerType      |                  | Stored | Proj. | Total |
| 55 Gallon Drum     |                  | 4.6    | 0.0   | 4.6   |
|                    | Final Form Total | 4.6    | 0.0   | 4.6   |

| Material Parameter             | Average<br>Density<br>(kg/m3) |
|--------------------------------|-------------------------------|
| Iron-Base Metal/Alloys         | 80.00                         |
| Aluminum-Base Metal/Alloys     | 5.00                          |
| Other Metal/Alloys             | 10.00                         |
| Other Inorganic Materials      | 1.00                          |
| Cellulosics                    | 2.00                          |
| Rubber                         | 2.00                          |
| Plastics                       | 5.00                          |
| Solidified, Inorganic Matrix   | 0.00                          |
| Cement (Solidified)            | 0.00                          |
| Vitrified                      | 0.00                          |
| Solidified, Organic Matrix     | 0.00                          |
| Soils                          | 0.00                          |
| Packaging Material, Steel      | 131.00                        |
| Packaging Material, Plastic    | 37.00                         |
| Packaging Material, Lead       | 0.00                          |
| Packaging Material, Steel Plug | 0.00                          |

#### Am-241 4.66E+00 Cm-244 9.08E-02 Cs-137 1.07E+02 1.98E-04 Np-237 Pu-238 9.23E-01 Pu-239 6.20E-01 Pu-240 9.30E-02 Pu-241 5.42E-03 Sr-90 1.07E+02 Th-229 1.01E-12 Th-230 7.23E-08 Th-232 1.70E-18 U-233 4.22E-09 U-234 1.61E-03

1.20E-04

1.38E-08

4.00E-05

U-235

U-236

U-238

#### **Waste Stream Description**

Heterogeneous debris from SNL/NM Hot Cell Facility D&D Project and other miscellaneous waste generators.

### **Management Comments**

#### Waste Stream ID: T001-221F-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W074 Stream Name CH TRU - Heterogeneous       | debris fro | m 221F    |             |                                |                                      | Invento    | ory Date 9/30/2002                  |
|--|------------|-----------|-------------|--------------------------------|--------------------------------------|------------|-------------------------------------|
| Local ID SR-T001 Handling CH Final Was                 | ste Form   | Heterogen | eous Debris | Waste Matrix Code S5000        | Waste Matrix Code S5000 Activity Con |            |                                     |
| Final Waste Form Descriptors                           |            |           |             | Waste Material Parameters      |                                      | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | ırces      |           |             | Material Parameter             | Average<br>Density<br>(kg/m3)        | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |            |           |             | Iron-Base Metal/Alloys         | 101.00                               | Am-241     | 4.95E-01                            |
| ContainerType  | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys     | 0.01                                 | Np-237     | 1.55E-06                            |
| Box / 12ft W x 18ft L x 7ft H                          | 807.5      | 0.0       | 807.5       | Other Metal/Alloys             | 0.00                                 | Pu-238     | 7.01E+01                            |
| Box / Misc.  | 14.0       | 0.0       |             | Other Inorganic Materials      | 23.00                                | Pu-239     | 1.28E+01                            |
| Drum / 55 gallon                                       | 140.2      | 106.9     | 247.1       | Cellulosics                    | 17.00                                | Pu-240     | 3.17E-01                            |
| Polybox  | 150.5      | 0.0       |             | Rubber                         | 0.04                                 | Pu-241     | 8.64E+00                            |
|  |            |           |             | Plastics                       | 16.00                                | Th-229     | 1.29E-14                            |
| As-Generated Total                                     | 1112.2     | 106.9     | 1219.1      | Solidified, Inorganic Matrix   | 0.00                                 | Th-230     | 1.37E-07                            |
| Final Form Volumes                                     |            |           |             | Cement (Solidified)            | 0.00                                 | Th-232     | 3.34E-17                            |
| ContainerType  | Stored     | Proj.     | Total       | Vitrified                      | 0.00                                 | U-233      | 3.64E-11                            |
| 55 Gallon Drum   | 140.2      | 106.9     | 247.1       | Solidified, Organic Matrix     | 0.00                                 | U-234      | 2.50E-03                            |
| 5'x5'x8' Box   | 1103.7     | 0.0       |             | Soils                          | 0.00                                 | U-235      | 1.51E-07                            |
| Standard Waste Box                                     | 0.0        | 372.3     |             | Packaging Material, Steel      | 153.57                               | U-236      | 1.13E-07                            |
|  |            |           |             | Packaging Material, Plastic    | 1.02                                 |            |                                     |
| Final Form Total                                       | 1243.9     | 479.2     | 1723.1      | Packaging Material, Lead       | 0.00                                 |            |                                     |
|  |            |           |             | Packaging Material, Steel Plug | 0.00                                 |            |                                     |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums.

| HQ ID SR-W074 Stream Name CH TRU - Heterogeneous                                | Invent     | Inventory Date 9/30/200  |        |                               |                                  |            |                                     |
|---|------------|--|--------|-------------------------------|----------------------------------|------------|-------------------------------------|
| Local ID SR-T001 Handling CH Final Was  | ste Form ⊦ | te Form Heterogeneous Debris Waste Matrix Code S5000 Activity Co |        |                               | oncentrations Decayed to CY 2002 |            |                                     |
| Final Waste Form Descriptors  |            |  |        | Waste Material Parameters     |                                  | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou Waste Volume Detail (m3) | irces      |  |        | Material Parameter            | Average<br>Density<br>(kg/m3)    | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |  |        | Iron-Base Metal/Alloys        | 110.00                           | Am-241     | 4.95E-01                            |
| ContainerType   | Stored     | Proj.  | Total  | Aluminum-Base Metal/Alloys    | 0.01                             | Np-237     | 1.55E-06                            |
| Box / 12ft W x 18ft L x 7ft H   | 2295.0     | 0.0  | 2295.0 | Other Metal/Alloys            | 0.00                             | Pu-238     | 7.01E+01                            |
| Drum / 55-gallon  | 397.1      | 77.0   |        | Other Inorganic Materials     | 27.00                            | Pu-239     | 1.28E+01                            |
| Polybox   | 82.5       | 0.0  |        | Cellulosics                   | 22.00                            | Pu-240     | 3.17E-01                            |
|   |            |  |        | Rubber                        | 0.03                             | Pu-241     | 8.64E+00                            |
| As-Generated Total  | 2774.6     | 77.0   | 2851.5 | Plastics                      | 8.00                             | Th-229     | 1.29E-14                            |
| Final Form Volumes  |            |  |        | Solidified, Inorganic Matrix  | 0.00                             | Th-230     | 1.37E-07                            |
| ContainerType   | Stored     | Proj.  | Total  | Cement (Solidified)           | 0.00                             | Th-232     | 3.34E-17                            |
| 55 Gallon Drum  | 397.1      | 77.0   | 474.0  | Vitrified                     | 0.00                             | U-233      | 3.64E-11                            |
| 5'x5'x8' Box  | 3079.0     | 0.0  | 3079.0 | Solidified, Organic Matrix    | 0.00                             | U-234      | 2.50E-03                            |
| Standard Waste Box  | 0.0        | 204.1  | 204.1  | Soils                         | 0.00                             | U-235      | 1.51E-07                            |
|   |            |  |        | Packaging Material, Steel     | 153.62                           | U-236      | 1.13E-07                            |
| Final Form Total  | 3476.1     | 281.1  | 3757.2 | Packaging Material, Plastic   | 0.66                             |            |                                     |
|   |            |  |        | Packaging Material, Lead      | 0.00                             |            |                                     |
|   |            |  |        | Packaging Material Steel Plug | 0.00                             |            |                                     |

#### **Waste Stream Description**

Waste Stream ID:

T001-221H-HET

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W074 Stream Name CH TRU Heterogeneous d                                   | Invent   | Inventory Date 9/30/200 |          |                              |                                       |            |                                     |
|--|--|-------------------------|----------|------------------------------|---------------------------------------|------------|-------------------------------------|
| Local ID SR-T001 Handling CH Final Was   | aste Form Heterogeneous Debris Waste Matrix Code S5000 |                         |          |                              | Activity Concentrations Decayed to CY |            |                                     |
| Final Waste Form Descriptors   |  |                         |          | Waste Material Parameters    |                                       | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source Waste Volume Detail (m3) | rces   |                         |          | Material Parameter           | Average<br>Density<br>(kg/m3)         | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |  |                         |          | Iron-Base Metal/Alloys       | 84.00                                 | Am-241     | 4.95E-01                            |
| ContainerType  | Stored   | Proj.                   | Total    | Aluminum-Base Metal/Alloys   | 0.01                                  | Np-237     | 1.55E-06                            |
| Box / Misc.  | 42.0   | 0.0                     |          | Other Metal/Alloys           | 0.00                                  | Pu-238     | 7.01E+01                            |
| Drum / 55-gallon   | 12.1   | 13.1                    | 25.2     | Other Inorganic Materials    | 15.00                                 | Pu-239     | 1.28E+01                            |
| Polybox  | 25.0   | 0.0                     |          | Cellulosics                  | 9.00                                  | Pu-240     | 3.17E-01                            |
| [-5/45]  |  |                         |          | Rubber                       | 0.05                                  | Pu-241     | 8.64E+00                            |
| As-Generated Total   | 79.1   | 13.1                    | 92.2     | Plastics                     | 27.00                                 | Th-229     | 1.29E-14                            |
| Final Form Volumes   |  |                         |          | Solidified, Inorganic Matrix | 0.00                                  | Th-230     | 1.37E-07                            |
| ContainerType  | Stored   | Proj.                   | Total    | Cement (Solidified)          | 0.00                                  | Th-232     | 3.34E-17                            |
| 55 Gallon Drum   | 12.1   | 13.1                    |          | Vitrified                    | 0.00                                  | U-233      | 3.64E-11                            |
| 5'x5'x8' Box   | 50.9   | 0.0                     |          | Solidified, Organic Matrix   | 0.00                                  | U-234      | 2.50E-03                            |
| Standard Waste Box   | 0.0  | 68.0                    |          | Soils                        | 0.00                                  | U-235      | 1.51E-07                            |
|  |  |                         | <u>_</u> | Packaging Material, Steel    | 153.30                                | U-236      | 1.13E-07                            |
| Final Form Total   | 63.0   | 81.1                    | 144.1    | Packaging Material, Plastic  | 1.75                                  |            |                                     |
|  |  |                         |          | Packaging Material, Lead     | 0.00                                  |            |                                     |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

Packaging Material, Steel Plug

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W074 Stream Name CH TRU - Heterogeneou                                | s debris fro | m 772F |        |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|--------------|--------|--------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID SR-T001 Handling CH Final Wa  |              |        |        |                              | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |              |        |        | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple So Waste Volume Detail (m3) | urces        |        |        | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |              |        |        | Iron-Base Metal/Alloys       | 4.60                          | Am-241     | 4.95E-01                            |
| ContainerType  | Stored       | Proj.  | Total  | Aluminum-Base Metal/Alloys   | 0.10                          | Np-237     | 1.55E-06                            |
| Box / Misc.  | 8.4          | 0.0    |        | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.01E+01                            |
| Drum / 55-gallon   | 93.2         | 907.9  |        | Other Inorganic Materials    | 1.60                          | Pu-239     | 1.28E+01                            |
|  |              |        |        | Cellulosics                  | 0.00                          | Pu-240     | 3.17E-01                            |
| As-Generated Total   | 101.6        | 907.9  | 1009.5 | Rubber                       | 0.30                          | Pu-241     | 8.64E+00                            |
| Final Form Volumes   |              |        |        | Plastics                     | 15.20                         | Th-229     | 1.29E-14                            |
| ContainerType  | Stored       | Proj.  | Total  | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 1.37E-07                            |
| 55 Gallon Drum   | 93.2         | 907.9  | 1001.1 | Cement (Solidified)          | 0.00                          | Th-232     | 3.34E-17                            |
| 5'x5'x8' Box   | 11.3         | 0.0    |        | Vitrified                    | 0.00                          | U-233      | 3.64E-11                            |
|  |              |        |        | Solidified, Organic Matrix   | 0.00                          | U-234      | 2.50E-03                            |
| Final Form Total   | 104.5        | 907.9  | 1012.4 | Soils                        | 0.00                          | U-235      | 1.51E-07                            |
|  |              |        |        | Packaging Material, Steel    | 131.26                        | U-236      | 1.13E-07                            |
|  |              |        |        | Packaging Material, Plastic  | 36.59                         |            | -                                   |
|  |              |        |        | Packaging Material Lead      | 0.00                          |            |                                     |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

Packaging Material, Steel Plug

Waste Stream ID: T001-773A-CLAS

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W074 Stream Name CH TRU - Classified wast     | Invent   | Inventory Date 9/30/200 |           |                                |                               |                 |                                     |
|--|----------|-------------------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID SR-T001 Handling CH Final Was                 | ste Form | Solidified I            | norganics | Waste Matrix Code S5000        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                           |          |                         |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | irces    |                         |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |          |                         |           | Iron-Base Metal/Alloys         | 129.00                        | Am-241          | 4.95E-01                            |
| ContainerType  | Stored   | Proj.                   | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 1.55E-06                            |
| Box / 162 ft3  | 23.0     | 0.0                     |           | Other Metal/Alloys             | 0.00                          | Pu-238          | 7.01E+01                            |
|  |          |                         |           | Other Inorganic Materials      | 32.10                         | Pu-239          | 1.28E+01                            |
| As-Generated Total                                     | 23.0     | 0.0                     | 23.0      | Cellulosics                    | 26.70                         | Pu-240          | 3.17E-01                            |
| Final Form Volumes                                     |          |                         | 1         | Rubber                         | 0.00                          | Pu-241          | 8.64E+00                            |
| ContainerType  | Stored   | Proj.                   | Total     | Plastics                       | 5.30                          | Th-229          | 1.29E-14                            |
| 5'x5'x8' Box   | 22.6     | 0.0                     | 22.6      | Solidified, Inorganic Matrix   | 0.00                          | Th-230          | 1.37E-07                            |
|  |          |                         | <u> </u>  | Cement (Solidified)            | 0.00                          | Th-232          | 3.34E-17                            |
| Final Form Total                                       | 22.6     | 0.0                     | 22.6      | Vitrified                      | 0.00                          | U-233           | 3.64E-11                            |
|  |          |                         |           | Solidified, Organic Matrix     | 0.00                          | U-234           | 2.50E-03                            |
|  |          |                         |           | Soils                          | 0.00                          | U-235           | 1.51E-07                            |
|  |          |                         |           | Packaging Material, Steel      | 154.00                        | U-236           | 1.13E-07                            |
|  |          |                         |           | Packaging Material, Plastic    | 0.00                          |                 |                                     |
|  |          |                         |           | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |          |                         |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

### Waste Stream ID: T001-773A-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W074 Stream Name CH TRU - Heterogeneous Local ID SR-T001 Handling CH Final Was |        |       | eous Debris | Waste Matrix Code S5000        | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|--------|-------|-------------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors  |        |       |             | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: Defense TRU Waste Source: Other/Multiple Sou                                  | ırces  |       |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
| As-Generated Volumes  |        |       |             | Iron-Base Metal/Alloys         | 23.00                         | Am-241     | 4.95E-01                                |
| ContainerType   | Stored | Proj. | Total       | Aluminum-Base Metal/Alloys     | 0.06                          | Np-237     | 1.55E-06                                |
| Box / Misc.   | 19.6   |       | 19.6        | Other Metal/Alloys             | 0.00                          | Pu-238     | 7.01E+01                                |
| Drum / 55-gallon  | 42.0   | 84.7  | 126.7       | Other Inorganic Materials      | 5.20                          | Pu-239     | 1.28E+01                                |
| Polybox   | 4.0    |       | 4.0         | Cellulosics                    | 5.00                          | Pu-240     | 3.17E-01                                |
|   |        |       |             | Rubber                         | 0.20                          | Pu-241     | 8.64E+00                                |
| As-Generated Total  | 65.6   | 84.7  | 150.3       | Plastics                       | 16.00                         | Th-229     | 1.29E-14                                |
| Final Form Volumes  |        |       | 1           | Solidified, Inorganic Matrix   | 0.00                          | Th-230     | 1.37E-07                                |
| ContainerType   | Stored | Proj. | Total       | Cement (Solidified)            | 0.00                          | Th-232     | 3.34E-17                                |
| 55 Gallon Drum  | 42.0   | 84.7  | 126.7       | Vitrified                      | 0.00                          | U-233      | 3.64E-11                                |
| 5'x5'x8' Box  | 17.0   | 0.0   | 17.0        | Solidified, Organic Matrix     | 0.00                          | U-234      | 2.50E-03                                |
| Standard Waste Box  | 0.0    | 11.3  | 11.3        | Soils                          | 0.00                          | U-235      | 1.51E-07                                |
|   |        |       |             | Packaging Material, Steel      | 139.29                        | U-236      | 1.13E-07                                |
| Final Form Total  | 59.0   | 96.0  | 155.0       | Packaging Material, Plastic    | 25.42                         | <u></u>    |   |
|   |        |       |             | Packaging Material, Lead       | 0.00                          |            |   |
|   |        |       |             | Packaging Material, Steel Plug | 0.00                          |            |   |

#### **Waste Stream Description**

This waste stream is defense related, contact handled TRU waste and is composed of Job Control waste, sludges and resins, HEPA filters and large, metal equipment

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

0.00

### Waste Stream ID: T003-773A-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W076 Stream Name RH TRU Heterogeneous                              |            |            |             |                              |                               |                | ory Date 9/30/2002                  |
|---|------------|------------|-------------|------------------------------|-------------------------------|----------------|-------------------------------------|
| Local ID SR-T003 Handling RH Final Wa                                       | ste Form   | -leterogen | eous Debris | Waste Matrix Code S5000      | Activity Con                  | centrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |            |             | Waste Material Parameters    |                               | Final Form     | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora Waste Volume Detail (m3) | tory Waste |            |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope        | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |            |             | Iron-Base Metal/Alloys       | 23.00                         | Am-243         | 1.83E-03                            |
| ContainerType   | Stored     | Proj.      | Total       | Aluminum-Base Metal/Alloys   | 0.06                          | Cs-137         | 2.73E+00                            |
| Cask / 40"x41"x53"  | 1.4        | 15.6       |             | Other Metal/Alloys           | 0.00                          | Pu-238         | 1.59E-01                            |
|   | l I        |            |             | Other Inorganic Materials    | 5.20                          | Pu-239         | 2.10E-07                            |
| As-Generated Total  | 1.4        | 15.6       | 17.0        | Cellulosics                  | 5.00                          | Sr-90          | 2.56E+00                            |
| Final Form Volumes  |            |            |             | Rubber                       | 0.20                          | Th-230         | 1.35E-10                            |
| ContainerType   | Stored     | Proj.      | Total       | Plastics                     | 16.00                         | U-234          | 3.72E-06                            |
| 5'x5'x8' Box  | 0.0        | 22.6       | 22.6        | Solidified, Inorganic Matrix | 0.00                          | U-235          | 5.53E-16                            |
|   | <u> </u>   |            |             | Cement (Solidified)          | 0.00                          |                |                                     |
| Final Form Total  | 0.0        | 22.6       | 22.6        | Vitrified                    | 0.00                          |                |                                     |
|   |            |            |             | Solidified, Organic Matrix   | 0.00                          |                |                                     |
|   |            |            |             | Soils                        | 0.00                          |                |                                     |
|   |            |            |             | Packaging Material, Steel    | 154.00                        |                |                                     |
|   |            |            |             | Packaging Material, Plastic  | 0.00                          |                |                                     |

#### **Waste Stream Description**

This waste consists of miscellaneous job control waste such as laboratory supplies used in research programs in the shielded cells, e.g. glassware, paper wipes, stainless steel samples vials, poly bottles, pipettes and small lab equipment (stirrers, heaters). In addition to the job control waste, this stream contains shavings from the cuttings of a Mark 16 fuel element.

Presently, this waste stream is stored as RH, but is reported as CH because after processing this stream will be CH.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

This waste will be repackaged for shipment to WIPP.

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W006 Stream Name Contact handled TRU/Liq                               | uids from 7 | 73A   |           |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|-------------|-------|-----------|------------------------------|-------------------------------|------------|-------------------------------------|
|   | ste Form    |       | norganics | Waste Matrix Code L2000      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |             |       |           | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Analytical Laborat Waste Volume Detail (m3) | ory Waste   |       |           | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |             |       |           | Iron-Base Metal/Alloys       | 1719.00                       | Am-241     | 4.43E-03                            |
| ContainerType   | Stored      | Proj. | Total     | Aluminum-Base Metal/Alloys   | 0.00                          | Np-237     | 1.45E-08                            |
| Stainless Steel can / 1 gal   | 0.1         | 0.0   |           | Other Metal/Alloys           | 0.00                          | Pu-239     | 8.60E+02                            |
| otalinood otaan valin i gali  |             |       |           | Other Inorganic Materials    | 0.00                          | Th-229     | 9.80E-17                            |
| As-Generated Total  | 0.1         | 0.0   | 0.1       | Cellulosics                  | 0.00                          | U-233      | 3.13E-13                            |
| Final Form Volumes  |             |       |           | Rubber                       | 0.00                          | U-235      | 8.48E-06                            |
| ContainerType   | Stored      | Proj. | Total     | Plastics                     | 0.00                          |            |                                     |
| 55 Gallon Drum  | 0.6         | 0.0   | 0.6       | Solidified, Inorganic Matrix | 0.00                          |            |                                     |
|   |             |       |           | Cement (Solidified)          | 0.00                          |            |                                     |
| Final Form Total  | 0.6         | 0.0   | 0.6       | Vitrified                    | 467.00                        |            |                                     |
|   |             |       |           | Solidified, Organic Matrix   | 0.00                          |            |                                     |
|   |             |       |           | Soils                        | 0.00                          |            |                                     |
|   |             |       |           | Packaging Material, Steel    | 131.00                        |            |                                     |
|   |             |       |           | Packaging Material, Plastic  | 0.00                          |            |                                     |

#### **Waste Stream Description**

The stream is a xylene-based chelating agent. It is a homogeneous, flammable liquid containing hazardous constituents. Total activity is 100 nCi/g. The waste is contact handled. TTA stands for Thenoyl Trifluoroacetone.

Packaging Material, Lead
Packaging Material, Steel Plug

0.00

0.00

#### **Management Comments**

The waste is stored in a stainless steel can, (Safe-T-Can brand for storage of flammable liquids), in a Satellite Accumulation Area (SAA), which is located in a laboratory hood in Lab B-138 of Building 773-A of SRTC.

The preferred option in the PSTP is to assay and characterize the waste stream at the TRU Waste Certification/Characterization Facility (TWCCF), followed by preparation for shipment and disposal at WIPP. Because of the small volume of the stream allternative treatment options are being investigated. One alternative is to handle the waste as a 90 day generator, remove the TRU portion of the stream, and treat the ignitable characteristic.

Waste stream contains HNO3 = 10E-3 (Molar Based on solubility after contact with 1Molar HNO3) per lab procedure.

# Waste Stream ID: W026-221F-HET Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

101

684.9

785.9

Final Form Total

0.0

0.0

0.0

| HQ ID SR-W026 Stream Name CH Mixed TRU/Third:                               |            |           |             |                              |                               | Inventory Date 9/30/200 |                                     |
|---|------------|-----------|-------------|------------------------------|-------------------------------|-------------------------|-------------------------------------|
| Local ID SR-W026 Handling CH Final  | Waste Form | Heterogen | eous Debris | Waste Matrix Code S5000      | Activity C                    | concentrations De       | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |           |             | Waste Material Parameters    |                               | Final Form              | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Waste Volume Detail (m3) | Sources    |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                 | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |           |             | Iron-Base Metal/Alloys       | 112.00                        | Am-241                  | 4.95E-01                            |
| ContainerType   | Stored     | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.01                          | Np-237                  | 1.55E-06                            |
| Box / 12' x 18' x 7'  | 513.8      | 0.0       | 513.8       | Other Metal/Alloys           | 0.00                          | Pu-238                  | 7.01E+01                            |
| Drum / 55-gallon  | 101.1      | 0.0       | 101.1       | Other Inorganic Materials    | 28.00                         | Pu-239                  | 1.28E+01                            |
| <u> </u>  |            |           |             | Cellulosics                  | 24.00                         | Pu-240                  | 3.17E-01                            |
| As-Generated To   | 614.9      | 0.0       | 614.9       | Rubber                       | 0.03                          | Pu-241                  | 8.64E+00                            |
| Final Form Volumes  |            |           |             | Plastics                     | 6.60                          | Th-229                  | 1.29E-14                            |
| ContainerType   | Stored     | Proj.     | Total       | Solidified, Inorganic Matrix | 0.00                          | Th-230                  | 1.37E-07                            |

101.1

684.9

785.9

Cement (Solidified)

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

Vitrified

Soils

0.00

0.00

0.00

0.00

0.62

0.00

153.61

Th-232

U-233

U-234

U-235

U-236

3.34E-17

3.64E-11

2.50E-03

1.51E-07

1.13E-07

#### **Waste Stream Description**

55 Gallon Drum

5'x5'x8' Box

200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. Small Hepas, liquids, sludges and resins may also be found in this stream. The waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories.

#### **Management Comments**

The current plan is to characterize the waste follower by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into Standard Waste Boxes. All miscellaneous box waste and waste currently stored in 12'x18'x7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

0.00

## Waste Stream ID: W026-221H-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W026 Stream Name CH Mixed TRU/Thirds He                                    | terogeneou | us debris f | from 221H   |                              |                               | Invent     | ory Date 9/30/2002                  |
|---|------------|-------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| ·   |            |             | eous Debris | Waste Matrix Code S5000      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |            |             |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ırces      |             |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |            |             |             | Iron-Base Metal/Alloys       | 101.00                        | Am-241     | 4.95E-01                            |
| ContainerType   | Stored     | Proj.       | Total       | Aluminum-Base Metal/Alloys   | 0.02                          | Np-237     | 1.55E-06                            |
| Box / 12' x 18' x 7'  | 342.5      | 0.0         |             | Other Metal/Alloys           | 0.00                          | Pu-238     | 7.01E+01                            |
| Drum / 55-gallon  | 129.2      | 0.0         |             | Other Inorganic Materials    | 25.00                         | Pu-239     | 1.28E+01                            |
|   | l          |             |             | Cellulosics                  | 21.00                         | Pu-240     | 3.17E-01                            |
| As-Generated Total  | 471.6      | 0.0         | 471.6       | Rubber                       | 0.06                          | Pu-241     | 8.64E+00                            |
| Final Form Volumes  |            |             |             | Plastics                     | 7.50                          | Th-229     | 1.29E-14                            |
| ContainerType   | Stored     | Proj.       | Total       | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 1.37E-07                            |
| 55 Gallon Drum  | 129.2      | 0.0         |             | Cement (Solidified)          | 0.00                          | Th-232     | 3.34E-17                            |
| 5'x5'x8' Box  | 458.5      | 0.0         |             | Vitrified                    | 0.00                          | U-233      | 3.64E-11                            |
| P.17.10 - 21.   |            |             |             | Solidified, Organic Matrix   | 0.00                          | U-234      | 2.50E-03                            |
| Final Form Total  | 587.6      | 0.0         | 587.6       | Soils                        | 0.00                          | U-235      | 1.51E-07                            |
|   |            |             |             | Packaging Material, Steel    | 152.90                        | U-236      | 1.13E-07                            |
|   |            |             |             | Packaging Material, Plastic  | 1.80                          | L          |                                     |

#### **Waste Stream Description**

200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. Small Hepas, liquids, sludges and resins may also be found in this stream. The waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

0.00

### Waste Stream ID: W026-235F-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W026 Stream Name CH Mixed TRU/Thirds He       | terogeneou | us debris f | rom 235F    |                              |                               | Invent     | ory Date 9/30/2002                  |
|--|------------|-------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|
| Local ID SR-W026 Handling CH Final Was                 | ste Form   | leterogen   | eous Debris | Waste Matrix Code S5000      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors                           |            |             |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Sou | ırces      |             |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes                                   |            |             |             | Iron-Base Metal/Alloys       | 3.13                          | Am-241     | 4.95E-01                            |
| ContainerType  | Stored     | Proj.       | Total       | Aluminum-Base Metal/Alloys   | 0.07                          | Np-237     | 1.55E-06                            |
| Drum / 55-gallon                                       | 9.2        | 0.0         | 9.2         | Other Metal/Alloys           | 0.04                          | Pu-238     | 7.01E+01                            |
|  | I          |             |             | Other Inorganic Materials    | 1.24                          | Pu-239     | 1.28E+01                            |
| As-Generated Total                                     | 9.2        | 0.0         | 9.2         | Cellulosics                  | 2.20                          | Pu-240     | 3.17E-01                            |
| Final Form Volumes                                     |            |             |             | Rubber                       | 0.26                          | Pu-241     | 8.64E+00                            |
| ContainerType  | Stored     | Proj.       | Total       | Plastics                     | 15.30                         | Th-229     | 1.29E-14                            |
| 55 Gallon Drum   | 9.2        | 0.0         | 9.2         | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 1.37E-07                            |
|  | l l        |             |             | Cement (Solidified)          | 0.00                          | Th-232     | 3.34E-17                            |
| Final Form Total                                       | 9.2        | 0.0         | 9.2         | Vitrified                    | 0.00                          | U-233      | 3.64E-11                            |
|  |            |             |             | Solidified, Organic Matrix   | 0.00                          | U-234      | 2.50E-03                            |
|  |            |             |             | Soils                        | 0.00                          | U-235      | 1.51E-07                            |
|  |            |             |             | Packaging Material, Steel    | 131.00                        | U-236      | 1.13E-07                            |
|  |            |             |             | Packaging Material Plastic   | 37 00                         | L          |                                     |

#### **Waste Stream Description**

200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. Small Hepas, liquids, sludges and resins may also be found in this stream. The waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories.

Packaging Material, Lead

Packaging Material, Steel Plug

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

### Waste Stream ID: W026-772F-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W026 Stream Name CH Mixed TRU/Thirds Het                               | erogeneou | ıs debris f | rom 772F    |                              |                               | Invent     | ory Date 9/30/2002                  |  |
|---|-----------|-------------|-------------|------------------------------|-------------------------------|------------|-------------------------------------|--|
|   |           |             | eous Debris | Waste Matrix Code S5000      | Activity Co                   |            | centrations Decayed to CY 2002      |  |
| Final Waste Form Descriptors  |           |             |             | Waste Material Parameters    |                               | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple Sou Waste Volume Detail (m3) | rces      |             |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |           |             |             | Iron-Base Metal/Alloys       | 3.13                          | Am-241     | 4.95E-01                            |  |
| ContainerType   | Stored    | Proj.       | Total       | Aluminum-Base Metal/Alloys   | 0.07                          | Np-237     | 1.55E-06                            |  |
| Drum / 55-gallon  | 2.5       | 0.0         | 2.5         | Other Metal/Alloys           | 0.04                          | Pu-238     | 7.01E+01                            |  |
|   | I         |             |             | Other Inorganic Materials    | 1.24                          | Pu-239     | 1.28E+01                            |  |
| As-Generated Total  | 2.5       | 0.0         | 2.5         | Cellulosics                  | 2.20                          | Pu-240     | 3.17E-01                            |  |
| Final Form Volumes  |           |             |             | Rubber                       | 0.26                          | Pu-241     | 8.64E+00                            |  |
| ContainerType   | Stored    | Proj.       | Total       | Plastics                     | 15.30                         | Th-229     | 1.29E-14                            |  |
| 55 Gallon Drum  | 2.5       | 0.0         | 2.5         | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 1.37E-07                            |  |
|   | I         |             |             | Cement (Solidified)          | 0.00                          | Th-232     | 3.34E-17                            |  |
| Final Form Total  | 2.5       | 0.0         | 2.5         | Vitrified                    | 0.00                          | U-233      | 3.64E-11                            |  |
|   |           |             |             | Solidified, Organic Matrix   | 0.00                          | U-234      | 2.50E-03                            |  |
|   |           |             |             | Soils                        | 0.00                          | U-235      | 1.51E-07                            |  |
|   |           |             |             | Packaging Material, Steel    | 131.00                        | U-236      | 1.13E-07                            |  |
|   |           |             |             | Packaging Material, Plastic  | 37.00                         |            | -                                   |  |

#### **Waste Stream Description**

200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. Small Hepas, liquids, sludges and resins may also be found in this stream. The waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories.

Packaging Material, Lead

Packaging Material, Steel Plug

0.00

0.00

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

0.00

### Waste Stream ID: W026-773A-HET

# Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W026 Stream Name CH Mixed TRU/Thirds He                                    |          |           | Invent      | ory Date 9/30/2002           |                               |                  |                                     |  |
|---|----------|-----------|-------------|------------------------------|-------------------------------|------------------|-------------------------------------|--|
| Local ID SR-W026 Handling CH Final Wa   | ste Form | leterogen | eous Debris | Waste Matrix Code S5000      | Activity Co                   | oncentrations De | rations Decayed to CY 2002          |  |
| Final Waste Form Descriptors  |          |           |             | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces    |           |             | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |          |           |             | Iron-Base Metal/Alloys       | 190.00                        | Am-241           | 4.95E-01                            |  |
| ContainerType   | Stored   | Proj.     | Total       | Aluminum-Base Metal/Alloys   | 0.01                          | Np-237           | 1.55E-06                            |  |
| 40"X41"X53" CASK  | 15.6     | 0.0       |             | Other Metal/Alloys           | 0.00                          | Pu-238           | 7.01E+01                            |  |
| Box / Misc.   | 1.9      | 0.0       |             | Other Inorganic Materials    | 1126.00                       | Pu-239           | 1.28E+01                            |  |
| Drum / 55-gallon  | 1.0      | 0.0       |             | Cellulosics                  | 96.00                         | Pu-240           | 3.17E-01                            |  |
|   | l        |           |             | Rubber                       | 0.05                          | Pu-241           | 8.64E+00                            |  |
| As-Generated Total  | 18.6     | 0.0       | 18.6        | Plastics                     | 60.00                         | Th-229           | 1.29E-14                            |  |
| Final Form Volumes  |          |           |             | Solidified, Inorganic Matrix | 0.00                          | Th-230           | 1.37E-07                            |  |
| ContainerType   | Stored   | Proj.     | Total       | Cement (Solidified)          | 0.00                          | Th-232           | 3.34E-17                            |  |
| 55 Gallon Drum  | 1.0      | 0.0       |             | Vitrified                    | 0.00                          | U-233            | 3.64E-11                            |  |
| 5'x5'x8' Box  | 39.6     | 0.0       |             | Solidified, Organic Matrix   | 0.00                          | U-234            | 2.50E-03                            |  |
| e ne ne Ben   |          | 0.0       | 00.0        | Soils                        | 0.00                          | U-235            | 1.51E-07                            |  |
| Final Form Total  | 40.7     | 0.0       | 40.7        | Packaging Material, Steel    | 153.97                        | U-236            | 1.13E-07                            |  |
|   |          |           |             | Packaging Material, Plastic  | 0.03                          |                  | •                                   |  |
|   |          |           |             | Packaging Material Lead      | 0.00                          |                  |                                     |  |

#### **Waste Stream Description**

200 Areas (F and H Separations Facilities). This waste is primarily solids consisting of mainly booties, lab coats, floor sweepings, rags, labware, and other job control wastes. Small Hepas, liquids, sludges and resins may also be found in this stream. The waste is generated primarily through separation activities in the course of plutonium production, includes small amounts of TRU waste from on site laboratories.

Packaging Material, Steel Plug

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

## Waste Stream ID: W027-221F-HET

## TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| INU   | WASILL       | JAJLLII    | AL HAALIAH       | OKT WASTE FROTTEE            |                               |            |                                     |
|---|--------------|------------|------------------|------------------------------|-------------------------------|------------|-------------------------------------|
| HQ ID SR-W027 Stream Name CH Mixed TRU/F listed s                                   | solvents - F | leterogene | eous debris fror | m 221F                       |                               | Invent     | ory Date 9/30/2002                  |
| Local ID SR-W0027 Handling CH Final W   | aste Form    | Heterogen  | eous Debris      | Waste Matrix Code S5000      | Activity Co                   |            | ecayed to CY 2002                   |
| Final Waste Form Descriptors  |              |            |                  | Waste Material Parameters    |                               | Final Form | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | ources       |            |                  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes  |              |            |                  | Iron-Base Metal/Alloys       | 26.00                         | Am-241     | 6.45E-01                            |
| ContainerType   | Stored       | Proj.      | Total            | Aluminum-Base Metal/Alloys   | 0.10                          | Np-237     | 4.94E-06                            |
| Box / 12' x 18' x 7'  | 385.3        |            |                  | Other Metal/Alloys           | 0.00                          | Pu-238     | 6.08E+01                            |
| Box / Misc.   | 30.8         |            |                  | Other Inorganic Materials    | 6.70                          | Pu-239     | 1.28E+01                            |
| Drum / 55-gallon  | 2508.1       | 0.0        |                  | Cellulosics                  | 6.60                          | Pu-240     | 3.16E-01                            |
| Druin 7 00 ganon  | 2000.1       | 0.0        | 2000.1           | Rubber                       | 0.20                          | Pu-241     | 3.63E+00                            |
| As-Generated Total  | 2924.1       | 0.0        | 2924.1           | Plastics                     | 13.50                         | Th-229     | 2.46E-13                            |
| Final Form Volumes  |              |            |                  | Solidified, Inorganic Matrix | 0.00                          | Th-230     | 8.19E-07                            |
| ContainerType   | Stored       | Proj.      | Total            | Cement (Solidified)          | 0.00                          | Th-232     | 2.09E-16                            |
| 55 Gallon Drum  | 2508.1       | 0.0        |                  | Vitrified                    | 0.00                          | U-233      | 2.85E-10                            |
| 5'x5'x8' Box  | 543.4        |            |                  | Solidified, Organic Matrix   | 0.00                          | U-234      | 5.84E-03                            |
| J X J X O DOX   | 343.4        | 0.0        | 545.4            | Soils                        | 0.00                          | U-235      | 3.78E-07                            |

#### **Waste Stream Description**

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.

3051.4

Packaging Material, Steel

Packaging Material, Lead

Packaging Material, Plastic

Packaging Material, Steel Plug

138.38

24.99

0.00

0.00

U-236

2.82E-07

0.0

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

3051.4

Final Form Total

#### Waste Stream ID: W027-221H-HET

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRU   | WASIE        | SASELI    | NE INVENT  | JRY WASTE PROFILE            |                                     |            |                                     |  |
|---|--------------|-----------|--|------------------------------|-------------------------------------|------------|-------------------------------------|--|
| HQ ID SR-W027 Stream Name CH Mixed TRU/F listed                               | solvents - H | leterogen | eous debris fron                                 | n 221H                       |                                     | Invent     | Inventory Date 9/30/200             |  |
| Local ID SR-W0027 Handling CH Final V   | Vaste Form   | Heteroger | neous Debris                                     | Waste Matrix Code S5000      | Waste Matrix Code S5000 Activity Co |            | ecayed to CY 2002                   |  |
| Final Waste Form Descriptors  |              |           |  | Waste Material Parameters    |                                     | Final Form | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple S Waste Volume Detail (m3) | Sources      |           |  | Material Parameter           | Average<br>Density<br>(kg/m3)       | Isotope    | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |              |           |  | Iron-Base Metal/Alloys       | 36.00                               | Am-241     | 6.45E-01                            |  |
| ContainerType   | Stored       | Proj.     | Total  | Aluminum-Base Metal/Alloys   | 0.05                                | Np-237     | 4.94E-06                            |  |
| 40"X41"X53" CASK  | 14.2         | 0.0       |  | Other Metal/Alloys           | 0.00                                | Pu-238     | 6.08E+01                            |  |
| Box / 12' x 18' x 7'  | 171.2        | 0.0       | 171.2  | Other Inorganic Materials    | 65.00                               | Pu-239     | 1.28E+01                            |  |
| Box / Misc.   | 56.0         | 0.0       | 56.0   | Cellulosics                  | 13.20                               | Pu-240     | 3.16E-01                            |  |
| Drum / 55 gallon  | 1018.2       |           |  | Rubber                       | 3.00                                | Pu-241     | 3.63E+00                            |  |
|   |              |           |  | Plastics                     | 16.00                               | Th-229     | 2.46E-13                            |  |
| As-Generated Total  | al 1259.6    | 0.0       | 1259.6   | Solidified, Inorganic Matrix | 0.00                                | Th-230     | 8.19E-07                            |  |
| Final Form Volumes  |              |           |  | Cement (Solidified)          | 0.00                                | Th-232     | 2.09E-16                            |  |
| ContainerType   | Stored       | Proj.     | Total  | Vitrified                    | 0.00                                | U-233      | 2.85E-10                            |  |
| 55 Gallon Drum  | 1018.2       |           | <del>                                     </del> | Solidified, Organic Matrix   | 0.00                                | U-234      | 5.84E-03                            |  |

#### **Waste Stream Description**

5'x5'x8' Box

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.

317.0

1335.1

Soils

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

0.00

140.27

21.35

0.00

0.00

U-235

U-236

3.78E-07

2.82E-07

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

Final Form Total

317.0

1335.1

0.0

2.85E-10

5.84E-03

3.78E-07

2.82E-07

### Waste Stream ID: W027-235F-HET Appendix J

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

| IRUV   | VASIE   | ASELII    | NE INVENT    | ORT WASTE PROFILE            |                               |                  |                                     |
|--|---|-----------|--------------|------------------------------|-------------------------------|------------------|-------------------------------------|
|  | Q ID SR-W027 Stream Name CH Mixed TRU/F listed solvents - Heterogeneous debri ocal ID SR-W0027 Handling CH Final Waste Form Heterogeneous Deb |           |              |                              |                               |                  | ory Date 9/30/2002                  |
| Local D Grewoozi Halluling Gri Final Wa  | iste Form   | leterogen | icous Debiis | Waste Matrix Code S5000      | Activity Co                   | incentrations Di | ecayed to C1 2002                   |
| Final Waste Form Descriptors   |   |           |              | Waste Material Parameters    |                               | Final Form       | Radionuclides                       |
| Category: Defense TRU Waste Source: Other/Multiple So Waste Volume Detail (m3) | urces   |           |              | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |   |           |              | Iron-Base Metal/Alloys       | 30.00                         | Am-241           | 6.45E-01                            |
| ContainerType  | Stored  | Proj.     | Total        | Aluminum-Base Metal/Alloys   | 0.05                          | Np-237           | 4.94E-06                            |
| Box / 12' x 18' x 7'   | 42.8  | 0.0       | 42.8         | Other Metal/Alloys           | 0.00                          | Pu-238           | 6.08E+01                            |
| Box / Misc.  | 28.0  | 0.0       | 28.0         | Other Inorganic Materials    | 8.00                          | Pu-239           | 1.28E+01                            |
| Drum / 55-gallon   | 311.2   | 0.0       | 311.2        | Cellulosics                  | 7.50                          | Pu-240           | 3.16E-01                            |
|  |   |           | <u> </u>     | Rubber                       | 0.20                          | Pu-241           | 3.63E+00                            |
| As-Generated Total   | 382.0   | 0.0       | 382.0        | Plastics                     | 13.00                         | Th-229           | 2.46E-13                            |
| Final Form Volumes   |   |           |              | Solidified, Inorganic Matrix | 0.00                          | Th-230           | 8.19E-07                            |
| ContainerType  | Stored  | Proi.     | Total        | Cement (Solidified)          | 0.00                          | Th-232           | 2.09E-16                            |

311.2

90.6

401.7

#### **Waste Stream Description**

55 Gallon Drum

5'x5'x8' Box

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.

Vitrified

Soils

Solidified, Organic Matrix

Packaging Material, Steel

Packaging Material, Lead
Packaging Material, Steel Plug

Packaging Material, Plastic

0.00

0.00

0.00

140.06

22.46

0.00

0.00

U-233

U-234

U-235

U-236

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

Final Form Total

311.2

401.7

90.6

0.0

0.0

0.0

0.00

### Waste Stream ID: W027-772F-HET

#### TRU WASTE BASELINE INVENTORY WASTE PROFILE

Appendix J

| HQ ID    | SR-W027          | Stream Name | CH Mix | ed TRU/F listed so | olvents - H | eterogene | eous debris fron | n 772F                       |                               | Invent          | ory Date 9/30/2002                  |
|----------|------------------|-------------|--------|--------------------|-------------|-----------|------------------|------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID | SR-W0027         | Handling    | СН     | Final Wa           | ste Form    | Heterogen | eous Debris      | Waste Matrix Code S5000      | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Wa | ste Form Descrip | otors       |        |                    |             |           |                  | Waste Material Parameters    |                               | Final Form      | Radionuclides                       |
| Cateo    | pory: Defense Ti |             | ource: | Other/Multiple So  | urces       |           |                  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Ge    | enerated Volumes |             |        |                    |             |           |                  | Iron-Base Metal/Alloys       | 18.00                         | Am-241          | 6.45E-01                            |
|          | inerType         | ·           |        |                    | Stored      | Proj.     | Total            | Aluminum-Base Metal/Alloys   | 0.50                          | Np-237          | 4.94E-06                            |
| Box / I  |                  |             |        |                    | 84.0        | 0.0       |                  | Other Metal/Alloys           | 0.00                          | Pu-238          | 6.08E+01                            |
| Drum     | / 55-gallon      |             |        |                    | 639.2       | 0.0       |                  | Other Inorganic Materials    | 5.00                          | Pu-239          | 1.28E+01                            |
|          |                  |             |        |                    |             |           |                  | Cellulosics                  | 5.00                          | Pu-240          | 3.16E-01                            |
|          |                  |             | As-C   | Generated Total    | 723.2       | 0.0       | 723.2            | Rubber                       | 0.20                          | Pu-241          | 3.63E+00                            |
| Final I  | Form Volumes     |             |        |                    |             |           |                  | Plastics                     | 14.00                         | Th-229          | 2.46E-13                            |
|          | inerType         |             |        |                    | Stored      | Proj.     | Total            | Solidified, Inorganic Matrix | 0.00                          | Th-230          | 8.19E-07                            |
|          | llon Drum        |             |        |                    | 639.2       | 0.0       |                  | Cement (Solidified)          | 0.00                          | Th-232          | 2.09E-16                            |
| 5'x5'x8  | B' Box           |             |        |                    | 90.6        | 0.0       |                  | Vitrified                    | 0.00                          | U-233           | 2.85E-10                            |
|          | -                |             |        |                    | l           |           |                  | Solidified, Organic Matrix   | 0.00                          | U-234           | 5.84E-03                            |
|          |                  |             | F      | inal Form Total    | 729.7       | 0.0       | 729.7            | Soils                        | 0.00                          | U-235           | 3.78E-07                            |
|          |                  |             |        |                    |             |           |                  | Packaging Material, Steel    | 136.48                        | U-236           | 2.82E-07                            |
|          |                  |             |        |                    |             |           |                  | Packaging Material, Plastic  | 28.90                         |                 |                                     |
|          |                  |             |        |                    |             |           |                  | Packaging Material, Lead     | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.

Packaging Material, Steel Plug

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

0.00

#### Waste Stream ID: W027-773A-HET

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W027 Stream Name CH Mixed TRU/F listed so                                   | olvents - H | eterogene | eous debris from | 1 773A                       |                               | Invent                          | ory Date 9/30/2002                  |
|--|-------------|-----------|------------------|------------------------------|-------------------------------|---------------------------------|-------------------------------------|
| Local ID SR-W0027 Handling CH Final Wa   | ste Form ⊦  | Heterogen | eous Debris      | Waste Matrix Code S5000      | Activity Co                   | Activity Concentrations Decayed |                                     |
| Final Waste Form Descriptors   |             |           |                  | Waste Material Parameters    | Final Form                    | Final Form Radionuclides        |                                     |
| Category: Defense TRU Waste Source: Other/Multiple Sources  Waste Volume Detail (m3) |             |           |                  | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |             |           |                  | Iron-Base Metal/Alloys       | 139.00                        | Am-241                          | 6.45E-01                            |
| ContainerType  | Stored      | Proj.     | Total            | Aluminum-Base Metal/Alloys   | 0.02                          | Np-237                          | 4.94E-06                            |
| 40"X41"X53" CASK   | 324.0       | 0.0       |                  | Other Metal/Alloys           | 0.00                          | Pu-238                          | 6.08E+01                            |
| Box / Misc.  | 142.8       | 0.0       |                  | Other Inorganic Materials    | 798.00                        | Pu-239                          | 1.28E+01                            |
| Drum / 55-gallon   | 302.0       | 0.0       |                  | Cellulosics                  | 69.00                         | Pu-240                          | 3.16E-01                            |
| u  | 002.0       | 0.0       | 002.0            | Rubber                       | 37.00                         | Pu-241                          | 3.63E+00                            |
| As-Generated Total   | 768.8       | 0.0       | 768.8            | Plastics                     | 46.00                         | Th-229                          | 2.46E-13                            |
| Final Form Volumes   |             |           |                  | Solidified, Inorganic Matrix | 0.00                          | Th-230                          | 8.19E-07                            |
| ContainerType  | Stored      | Proj.     | Total            | Cement (Solidified)          | 0.00                          | Th-232                          | 2.09E-16                            |
| 55 Gallon Drum   | 302.0       | 0.0       |                  | Vitrified                    | 0.00                          | U-233                           | 2.85E-10                            |
| 5'x5'x8' Box   | 786.7       | 0.0       |                  | Solidified, Organic Matrix   | 0.00                          | U-234                           | 5.84E-03                            |
| o no no Bon  |             |           |                  | Soils                        | 0.00                          | U-235                           | 3.78E-07                            |
| Final Form Total   | 1088.8      | 0.0       | 1088.8           | Packaging Material, Steel    | 152.34                        | U-236                           | 2.82E-07                            |
|  |             |           |                  | Packaging Material, Plastic  | 2.86                          |                                 |                                     |
|  |             |           |                  | Packaging Material Lead      | 0.00                          |                                 |                                     |

#### **Waste Stream Description**

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.

Packaging Material, Steel Plug

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description.

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

#### Waste Stream ID: W027-999-HET

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W027 Stream Name CH Mixed TRU/F listed so                                  | olvents - H | leterogene | ous debris fr | rom offsite                  | Inventory Date 9/30           |                                 |                                     |  |
|---|-------------|------------|---------------|------------------------------|-------------------------------|---------------------------------|-------------------------------------|--|
| Local ID SR-W0027 Handling CH Final Wa  | ste Form    | Heterogen  | eous Debris   | Waste Matrix Code S5400      | Activity Co                   | oncentrations Decayed to CY 200 |                                     |  |
| Final Waste Form Descriptors  |             |            |               | Waste Material Parameters    |                               | Final Form                      | Radionuclides                       |  |
| Category: Defense TRU Waste Source: Other/Multiple Source: Waste Volume Detail (m3) | urces       |            |               | Material Parameter           | Average<br>Density<br>(kg/m3) | Isotope                         | Typical<br>Concentration<br>(Ci/m3) |  |
| As-Generated Volumes  |             |            |               | Iron-Base Metal/Alloys       | 55.00                         | Am-241                          | 6.45E-01                            |  |
| ContainerType   | Stored      | Proj.      | Total         | Aluminum-Base Metal/Alloys   | 0.04                          | Np-237                          | 4.94E-06                            |  |
| Box / Misc.   | 100.8       | 137.2      | 238.0         | Other Metal/Alloys           | 0.00                          | Pu-238                          | 6.08E+01                            |  |
| Drum / 30 gallon  | 27.5        | 0.0        |               | Other Inorganic Materials    | 14.00                         | Pu-239                          | 1.28E+01                            |  |
| Drum / 55-gallon  | 155.0       | 135.0      | 290.0         | Cellulosics                  | 12.00                         | Pu-240                          | 3.16E-01                            |  |
| DRUM / 83 gallon  | 18.8        |            |               | Rubber                       | 0.20                          | Pu-241                          | 3.63E+00                            |  |
|   |             |            |               | Plastics                     | 11.00                         | Th-229                          | 2.46E-13                            |  |
| As-Generated Total  | 302.1       | 272.2      | 574.3         | Solidified, Inorganic Matrix | 0.00                          | Th-230                          | 8.19E-07                            |  |
| Final Form Volumes  |             |            |               | Cement (Solidified)          | 0.00                          | Th-232                          | 2.09E-16                            |  |
| ContainerType   | Stored      | Proj.      | Total         | Vitrified                    | 0.00                          | U-233                           | 2.85E-10                            |  |
| 55 Gallon Drum  | 0.0         | 346.9      | 346.9         | Solidified, Organic Matrix   | 0.00                          | U-234                           | 5.84E-03                            |  |
| 5'x5'x8' Box  | 0.0         | 243.4      | 243.4         | Soils                        | 0.00                          | U-235                           | 3.78E-07                            |  |
| 5 No No 26 N  |             |            |               | Packaging Material, Steel    | 145.77                        | U-236                           | 2.82E-07                            |  |
| Final Form Total  | 0.0         | 590.3      | 590.3         | Packaging Material, Plastic  | 12.93                         |                                 | -                                   |  |
|   |             |            |               | Packaging Material, Lead     | 0.00                          |                                 |                                     |  |

#### **Waste Stream Description**

This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste.

#### **Management Comments**

The current plan is to characterize the waste followed by shipment and disposal at WIPP. HEPA filters packaged in polyboxes will be packaged into SWB's. All miscellaneous box waste and waste currently stored in 12'x18x'7' steel boxes will be shipped utilizing 5'x5'x8' or smaller containers that meet TRUPACT III and WIPP disposal limits. Regulatory relief is expected to allow shipment of the higher activity drummed waste without volume expansion. Only physical dimension limitations have been assumed for TRUPACT III. TDOPs are planned to overpack drums; however, TDOPs are not identified in the final waste form container description. This waste stream has been expanded to include the receipt of future Mound waste.

Packaging Material, Steel Plug

0.00

Waste is double-bagged and placed in a 90-mil polyethylene drum liner inside a 55-gallon carbon steel drum. The liner lid is glued in place.

#### Waste Stream ID: W053-773A-VIT

### Appendix J TRU WASTE BASELINE INVENTORY WASTE PROFILE

| HQ ID SR-W053 Stream Name Contact handled mixed TI                           | RU/Residu  | es from 77   | 73A       |                                |                               | Invent          | ory Date 9/30/2002                  |
|--|------------|--------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID SR-W053 Handling CH Final Wa  | ste Form   | Solidified I | norganics | Waste Matrix Code S3111        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors   |            |              |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: Defense TRU Waste Source: R&D/R&D Labora  Waste Volume Detail (m3) | tory Waste |              |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
| As-Generated Volumes   |            |              |           | Iron-Base Metal/Alloys         | 273.00                        | Pu-239          | 6.40E+02                            |
| ContainerType  | Stored     | Proj.        | Total     | Aluminum-Base Metal/Alloys     | 0.00                          | U-235           | 6.31E-06                            |
| small carton in 30 gal containers  | 0.6        | 0.0          | 0.6       | Other Metal/Alloys             | 0.00                          |                 |                                     |
| <u> </u>   |            |              |           | Other Inorganic Materials      | 0.00                          |                 |                                     |
| As-Generated Total   | 0.6        | 0.0          | 0.6       | Cellulosics                    | 0.00                          |                 |                                     |
| Final Form Volumes   |            |              |           | Rubber                         | 0.00                          |                 |                                     |
| ContainerType  | Stored     | Proj.        | Total     | Plastics                       | 0.00                          |                 |                                     |
| 55 Gallon Drum   | 0.6        | 0.0          | 0.6       | Solidified, Inorganic Matrix   | 0.00                          |                 |                                     |
|  | l          |              |           | Cement (Solidified)            | 0.00                          |                 |                                     |
| Final Form Total   | 0.6        | 0.0          | 0.6       | Vitrified                      | 2415.00                       |                 |                                     |
|  |            |              |           | Solidified, Organic Matrix     | 0.00                          |                 |                                     |
|  |            |              |           | Soils                          | 0.00                          |                 |                                     |
|  |            |              |           | Packaging Material, Steel      | 131.00                        |                 |                                     |
|  |            |              |           | Packaging Material, Plastic    | 37.00                         |                 |                                     |
|  |            |              |           | Packaging Material, Lead       | 0.00                          |                 |                                     |
|  |            |              |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### **Waste Stream Description**

This waste stream consists of Rocky Flats Incinerator Ash and F-listed solvents, and is contaminated with TRU nuclides from SRS laboratories. This waste is classified as contact-handled.

#### **Management Comments**

The preferred treatment option is to return the ash to Rocky Flats for consolidation and treatment with similar wastes. Treatment (if any) would then be at the discretion of Rocky Flats. Until a full agreement between SRS and RF has been reached, preliminary plans indicate SRS would add this small stream to a larger stream for vitrification.

The waste itself is in four small cartons which are placed in 30 gallon shipping containers at a ratio of two small cartons per shipping container.

This stream is currently stored in a total of 4 cartons which are placed in 30 gallon shipping containers (not TRAMPAC approved). 2 cartons per shipping container. The containers are stored in 235-F.

# APPENDIX K WASTE STREAM PROFILES – EMPLACED

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The following waste stream profiles contain information on waste streams emplaced in the WIPP as of the inventory date, September 30, 2002. The TRU waste sites that have shipped TRU waste to the WIPP are:

| Idaho National Engineering and Environmental Laboratory | IN |
|---|----|
| Los Alamos National Laboratory                          | LA |
| Rocky Flats Environmental Technology Site               | RF |
| Hanford (Richland)                                      | RL |
| Savannah River Site                                     | SR |

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Appendix K 2

| ocal ID N/A Handling CH Final W                     | aste Form | Jonibusuit | ле    | Waste Matrix Code S5330        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|---|-----------|------------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                        |           |            |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A  Waste Volume Detail (m3) |           |            |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |           |            |       | Iron-Base Metal/Alloys         | 0.27                          | Am-241          | 1.95E-01                            |
|   |           |            |       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 6.25E-08                            |
|   |           |            |       | Other Metal/Alloys             | 2.75                          | Pu-238          | 2.80E-02                            |
|   |           |            |       | Other Inorganic Materials      | 7.22                          | Pu-239          | 9.07E-01                            |
| Final Form Volumes                                  |           |            |       | Cellulosics                    | 127.53                        | Pu-240          | 2.02E-01                            |
| ContainerType                                       | Stored    | Proj.      | Total | Rubber                         | 0.73                          | Pu-241          | 2.34E+00                            |
| Drum  | 17.0      | 0.0        | 17.0  | Plastics                       | 7.76                          | Pu-242          | 2.27E-05                            |
| Final Form Total                                    | 17.0      | 0.0        | 17.0  | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 4.24E-18                            |
| i mai i sim i siai                                  |           |            |       | Cement (Solidified)            | 0.00                          | Th-230          | 8.71E-11                            |
|   |           |            |       | Vitrified                      | 0.00                          | Th-232          | 1.48E-19                            |
|   |           |            |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 1.36E-13                            |
|   |           |            |       | Soils                          | 0.00                          | U-234           | 9.72E-06                            |
|   |           |            |       | Packaging Material, Steel      | 127.43                        | U-235           | 3.10E-06                            |
|   |           |            |       | Packaging Material, Plastic    | 38.60                         | U-236           | 5.99E-09                            |
|   |           |            |       | Packaging Material, Lead       | 0.00                          | U-238           | 1.74E-07                            |
|   |           |            |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |
| Waste Stream Description<br>N/A                     |           |            |       |                                |                               |                 |                                     |

### Waste Stream ID: WP-INW198.001

| Final Waste Form Descriptors                        |                    |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|---|--------------------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source: N/A  Vaste Volume Detail (m3) |                    |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   |                    |       |       | Iron-Base Metal/Alloys         | 0.18                          | Am-241     | 8.73E-02                            |
|   |                    |       |       | Aluminum-Base Metal/Alloys     | 0.01                          | Np-237     | 2.79E-08                            |
|   |                    |       |       | Other Metal/Alloys             | 2.74                          | Pu-238     | 1.86E-02                            |
|   |                    |       |       | Other Inorganic Materials      | 13.35                         | Pu-239     | 6.16E-01                            |
| Final Form Volumes                                  |                    |       |       | Cellulosics                    | 0.48                          | Pu-240     | 1.37E-01                            |
| ContainerType                                       | Stored             | Proj. | Total | Rubber                         | 0.55                          | Pu-241     | 1.46E+00                            |
| Drum  | 44.7               | 0.0   | 44.7  | Plastics                       | 85.74                         | Pu-242     | 1.28E-05                            |
| Final Form  | Г <b>otal</b> 44.7 | 0.0   | 44.7  | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 2.81E-10                            |
| · mai · o·m   |                    |       |       | Cement (Solidified)            | 0.00                          | Th-230     | 1.62E-11                            |
|   |                    |       |       | Vitrified                      | 0.00                          | Th-232     | 1.00E-19                            |
|   |                    |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 3.00E-06                            |
|   |                    |       |       | Soils                          | 0.00                          | U-234      | 1.83E-06                            |
|   |                    |       |       | Packaging Material, Steel      | 127.43                        | U-235      | 5.51E-07                            |
|   |                    |       |       | Packaging Material, Plastic    | 41.61                         | U-236      | 4.06E-09                            |
|   |                    |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 1.08E-06                            |
|   |                    |       |       | Packaging Material, Steel Plug | 0.00                          |            |                                     |
| Waste Stream Description<br>N/A                     |                    |       |       |                                |                               |            |                                     |

| HQ ID N/A Stream Name FILTER DEBRIS WASTE  Local ID N/A Handling CH Final Waste Form Filter Waste Matrix Code S5410 Activity Concern |                  |        |       |       |                                |                               |            | Inventory Date 9/30/2002 ntrations Decayed to CY 2002 |  |
|--|------------------|--------|-------|-------|--------------------------------|-------------------------------|------------|---|--|
| Final Waste Form Descriptors   |                  |        |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides   |  |
| Category: N/A Waste Volume Detail (m3)   | Source: N/A      |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)                   |  |
|  |                  |        |       |       | Iron-Base Metal/Alloys         | 0.06                          | Am-241     | 1.53E+00  |  |
|  |                  |        |       |       | Aluminum-Base Metal/Alloys     | 8.59                          | Np-237     | 4.91E-07  |  |
|  |                  |        |       |       | Other Metal/Alloys             | 0.42                          | Pu-238     | 2.73E-01  |  |
|  |                  |        |       |       | Other Inorganic Materials      | 22.28                         | Pu-239     | 8.94E+00  |  |
| Final Form Volumes   |                  |        |       |       | Cellulosics                    | 137.66                        | Pu-240     | 1.98E+00  |  |
| ContainerType  |                  | Stored | Proj. | Total | Rubber                         | 0.08                          | Pu-241     | 2.59E+01  |  |
| Drum   |                  | 286.2  | 0.0   | 286.2 | Plastics                       | 7.28                          | Pu-242     | 2.59E-04  |  |
|  | Final Form Total | 286.2  | 0.0   | 286.2 | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 2.36E-09  |  |
|  |                  |        |       |       | Cement (Solidified)            | 0.00                          | Th-230     | 5.88E-11  |  |
|  |                  |        |       |       | Vitrified                      | 0.00                          | Th-232     | 1.45E-18  |  |
|  |                  |        |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 2.52E-05  |  |
|  |                  |        |       |       | Soils                          | 0.00                          | U-234      | 6.93E-06  |  |
|  |                  |        |       |       | Packaging Material, Steel      | 127.43                        | U-235      | 2.13E-06  |  |
|  |                  |        |       |       | Packaging Material, Plastic    | 38.69                         | U-236      | 5.88E-08  |  |
|  |                  |        |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 2.33E-06  |  |
|  |                  |        |       |       | Packaging Material, Steel Plug | 0.00                          |            |   |  |
| Waste Stream Description N/A   |                  |        |       |       |                                |                               |            |   |  |
| Management Comments<br>N/A   |                  |        |       |       |                                |                               |            |   |  |

### Waste Stream ID: WP-INW216.001-A

| Local ID N/A Handling CH Final W Final Waste Form Descriptors | aste Form | Johannea 1 | Horganios | Waste Matrix Code S3121  Waste Material Parameters | Activity Co                   |         | ecayed to CY 2002             |
|---|-----------|------------|-----------|--|-------------------------------|---------|-------------------------------|
| Category: N/A Source: N/A Waste Volume Detail (m3)            |           |            |           | Material Parameter                                 | Average<br>Density<br>(kg/m3) | Isotope | Typical Concentration (Ci/m3) |
|   |           |            |           | Iron-Base Metal/Alloys                             | 0.01                          | Am-241  | 2.82E+01                      |
|   |           |            |           | Aluminum-Base Metal/Alloys                         | 0.00                          | Np-237  | 1.83E-05                      |
|   |           |            |           | Other Metal/Alloys                                 | 0.10                          | Pu-238  | 5.05E-02                      |
|   |           |            |           | Other Inorganic Materials                          | 13.25                         | Pu-239  | 1.67E+00                      |
| Final Form Volumes  |           |            |           | Cellulosics  | 0.25                          | Pu-240  | 3.71E-01                      |
| ContainerType   | Stored    | Proj.      | Total     | Rubber   | 0.01                          | Pu-241  | 4.61E+00                      |
| Drum  | 888.3     | 0.0        | 888.3     | Plastics   | 0.44                          | Pu-242  | 4.82E-05                      |
| Final Form Tota   | 888.3     | 0.0        | 888.3     | Solidified, Inorganic Matrix                       | 841.28                        | Th-229  | 2.01E-09                      |
|   | <u> </u>  |            |           | Cement (Solidified)                                | 0.00                          | Th-230  | 5.60E-09                      |
|   |           |            |           | Vitrified  | 0.00                          | Th-232  | 1.09E-18                      |
|   |           |            |           | Solidified, Organic Matrix                         | 0.25                          | U-233   | 1.07E-05                      |
|   |           |            |           | Soils  | 0.00                          | U-234   | 3.11E-04                      |
|   |           |            |           | Packaging Material, Steel                          | 127.43                        | U-235   | 5.54E-05                      |
|   |           |            |           | Packaging Material, Plastic                        | 44.12                         | U-236   | 2.20E-08                      |
|   |           |            |           | Packaging Material, Lead                           | 0.00                          | U-238   | 2.36E-03                      |
|   |           |            |           | Packaging Material, Steel Plug                     | 0.00                          |         |                               |
| Waste Stream Description<br>N/A                               |           |            |           |  |                               |         |                               |

### Waste Stream ID: WP-INW216.001-B

| Local ID N/A Handling CH Final Waste Form Solidified Inorganics | Waste Matrix Code S3150          | Activity Co                   | incentrations De | ecayed to CY 2002                   |
|---|----------------------------------|-------------------------------|------------------|-------------------------------------|
| Final Waste Form Descriptors                                    | <b>Waste Material Parameters</b> |                               | Final Form       | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)              | Material Parameter               | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|   | Iron-Base Metal/Alloys           | 0.00                          | Am-241           | 2.24E+01                            |
|   | Aluminum-Base Metal/Alloys       | 0.00                          | Np-237           | 1.45E-05                            |
|   | Other Metal/Alloys               | 0.05                          | Pu-238           | 3.93E-02                            |
|   | Other Inorganic Materials        | 0.87                          | Pu-239           | 1.30E+00                            |
| Final Form Volumes  | Cellulosics                      | 0.02                          | Pu-240           | 2.88E-01                            |
| ContainerType Stored Proj. Total                                | Rubber                           | 0.00                          | Pu-241           | 3.58E+00                            |
| Drum 308.7 0.0 308.7  | Plastics                         | 0.03                          | Pu-242           | 3.74E-05                            |
| Final Form Total 308.7 0.0 308.7                                | Solidified, Inorganic Matrix     | 787.00                        | Th-229           | 3.82E-09                            |
|   | Cement (Solidified)              | 0.00                          | Th-230           | 1.61E-09                            |
|   | Vitrified                        | 0.00                          | Th-232           | 8.45E-19                            |
|   | Solidified, Organic Matrix       | 0.00                          | U-233            | 2.04E-05                            |
|   | Soils                            | 0.00                          | U-234            | 8.95E-05                            |
|   | Packaging Material, Steel        | 127.43                        | U-235            | 2.80E-05                            |
|   | Packaging Material, Plastic      | 45.15                         | U-236            | 1.71E-08                            |
|   | Packaging Material, Lead         | 0.00                          | U-238            | 1.24E-04                            |
|   | Packaging Material, Steel Plug   | 0.00                          |                  |                                     |
| Waste Stream Description N/A                                    |                                  |                               |                  |                                     |

#### Waste Stream ID: WP-INW218.001-A

N/A

| _ocal ID N/A                           | Handling CH Final Wa | ste Form | Solidified I | norganics | Waste Matrix Code S3121        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|----------------------|----------|--------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descrip               | otors                |          |              |           | Waste Material Parameters      | Final Form                    | Radionuclides   |                                     |
| Category: N/A Waste Volume Detail (m3) | Source: N/A          |          |              |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |                      |          |              |           | Iron-Base Metal/Alloys         | 0.01                          | Am-241          | 6.03E-01                            |
|  |                      |          |              |           | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 1.95E-07                            |
|  |                      |          |              |           | Other Metal/Alloys             | 0.01                          | Pu-238          | 1.05E-02                            |
|  |                      |          |              |           | Other Inorganic Materials      | 9.98                          | Pu-239          | 3.41E-01                            |
| Final Form Volumes                     |                      |          |              |           | Cellulosics                    | 0.24                          | Pu-240          | 7.59E-02                            |
| ContainerType                          |                      | Stored   | Proj.        | Total     | Rubber                         | 0.01                          | Pu-241          | 9.81E-01                            |
| Drum                                   |                      | 741.7    | 0.0          |           | Plastics                       | 0.77                          | Pu-242          | 9.71E-06                            |
| SWB                                    |                      | 15.0     | 0.0          | 15.0      | Solidified, Inorganic Matrix   | 842.26                        | Th-229          | 3.56E-10                            |
|  | Final Form Total     | 756.8    | 0.0          | 756.8     | Cement (Solidified)            | 0.00                          | Th-230          | 4.59E-09                            |
|  |                      |          |              |           | Vitrified                      | 0.00                          | Th-232          | 5.55E-20                            |
|  |                      |          |              |           | Solidified, Organic Matrix     | 0.29                          | U-233           | 3.79E-06                            |
|  |                      |          |              |           | Soils                          | 0.00                          | U-234           | 5.10E-04                            |
|  |                      |          |              |           | Packaging Material, Steel      | 129.06                        | U-235           | 6.36E-05                            |
|  |                      |          |              |           | Packaging Material, Plastic    | 43.84                         | U-236           | 2.25E-09                            |
|  |                      |          |              |           | Packaging Material, Lead       | 0.00                          | U-238           | 5.22E-03                            |
|  |                      |          |              |           | Packaging Material, Steel Plug | 0.00                          |                 | •                                   |

Waste Stream ID: WP-INW218.001-B

| ocal ID N/A Handling CH Fina                        | I Waste Form | onanieu i | inorganics | Waste Matrix Code S3150          | Activity Co                   | incentrations De | ecayed to CY 200                    |
|---|--------------|-----------|------------|----------------------------------|-------------------------------|------------------|-------------------------------------|
| Final Waste Form Descriptors                        |              |           |            | <b>Waste Material Parameters</b> |                               | Final Form       | Radionuclides                       |
| Category: N/A Source: N/A  Waste Volume Detail (m3) |              |           |            | Material Parameter               | Average<br>Density<br>(kg/m3) | Isotope          | Typical<br>Concentration<br>(Ci/m3) |
|   |              |           |            | Iron-Base Metal/Alloys           | 0.00                          | Am-241           | 6.02E-02                            |
|   |              |           |            | Aluminum-Base Metal/Alloys       | 0.00                          | Np-237           | 1.93E-08                            |
|   |              |           |            | Other Metal/Alloys               | 0.00                          | Pu-238           | 8.74E-03                            |
|   |              |           |            | Other Inorganic Materials        | 1.12                          | Pu-239           | 2.81E-01                            |
| Final Form Volumes                                  |              |           |            | Cellulosics                      | 0.00                          | Pu-240           | 6.25E-02                            |
| ContainerType                                       | Stored       | Proj.     | Total      | Rubber                           | 0.00                          | Pu-241           | 8.41E-01                            |
| Drum  | 25.0         | 0.0       | 25.0       | Plastics                         | 0.00                          | Pu-242           | 8.12E-06                            |
| Final Form To                                       | otal 25.0    | 0.0       | 25.0       | Solidified, Inorganic Matrix     | 1159.11                       | Th-229           | 1.31E-18                            |
| · mai · om ·  |              |           |            | Cement (Solidified)              | 0.00                          | Th-230           | 1.35E-08                            |
|   |              |           |            | Vitrified                        | 0.00                          | Th-232           | 4.58E-20                            |
|   |              |           |            | Solidified, Organic Matrix       | 0.00                          | U-233            | 4.19E-14                            |
|   |              |           |            | Soils                            | 0.00                          | U-234            | 1.50E-03                            |
|   |              |           |            | Packaging Material, Steel        | 127.43                        | U-235            | 1.82E-04                            |
|   |              |           |            | Packaging Material, Plastic      | 45.03                         | U-236            | 1.85E-09                            |
|   |              |           |            | Packaging Material, Lead         | 0.00                          | U-238            | 1.69E-02                            |
|   |              |           |            | Packaging Material, Steel Plug   | 0.00                          |                  |                                     |
| Waste Stream Description<br>N/A                     |              |           |            |                                  |                               |                  |                                     |

N/A

N/A

**Management Comments** 

| ocal ID N/A Handling CH Final Wa                   | ste Form | Solidified Ir | norganics | Waste Matrix Code S3150        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|----------|---------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                       |          |               |           | Waste Material Parameters      | Final Form                    | Radionuclides   |                                     |
| Category: N/A Source: N/A Waste Volume Detail (m3) |          |               |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |          |               |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241          | 5.54E-01                            |
|  |          |               |           | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 1.78E-07                            |
|  |          |               |           | Other Metal/Alloys             | 0.04                          | Pu-238          | 7.77E-02                            |
|  |          |               |           | Other Inorganic Materials      | 0.34                          | Pu-239          | 2.27E+00                            |
| Final Form Volumes                                 |          | •             |           | Cellulosics                    | 0.00                          | Pu-240          | 5.08E-01                            |
| ContainerType                                      | Stored   | Proj.         | Total     | Rubber                         | 0.00                          | Pu-241          | 5.90E+00                            |
| Drum   | 30.2     | 0.0           | 30.2      | Plastics                       | 7.86                          | Pu-242          | 5.11E-05                            |
| Final Form Total                                   | 30.2     | 0.0           | 30.2      | Solidified, Inorganic Matrix   | 578.76                        | Th-229          | 1.21E-17                            |
|  | I        | i             |           | Cement (Solidified)            | 0.00                          | Th-230          | 1.70E-10                            |
|  |          |               |           | Vitrified                      | 0.00                          | Th-232          | 3.72E-19                            |
|  |          |               |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 3.87E-13                            |
|  |          |               |           | Soils                          | 0.00                          | U-234           | 1.90E-05                            |
|  |          |               |           | Packaging Material, Steel      | 127.43                        | U-235           | 2.51E-06                            |
|  |          |               |           | Packaging Material, Plastic    | 38.71                         | U-236           | 1.51E-08                            |
|  |          |               |           | Packaging Material, Lead       | 0.00                          | U-238           | 1.78E-04                            |
|  |          |               |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

| HQ ID         N/A         Stream Name         GLASS DEBRIS           Local ID         N/A         Handling         CH         Final W | aste Form | norganic N | Non-Metal | Waste Ma    | trix Code S5122      | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|-----------|------------|-----------|-------------|----------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors  |           |            |           | Waste Ma    | terial Parameters    |                               | Final Form | Radionuclides                           |
| Category: N/A Source: N/A Waste Volume Detail (m3)  |           |            |           | Material P  | arameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
|   |           |            |           | Iron-Base   | Metal/Alloys         | 0.33                          | Am-241     | 6.39E-01                                |
|   |           |            |           | Aluminum-   | Base Metal/Alloys    | 0.01                          | Np-237     | 4.10E-07                                |
|   |           |            |           | Other Meta  | al/Alloys            | 11.57                         | Pu-238     | 7.54E-02                                |
|   |           |            |           | Other Inorg | ganic Materials      | 163.64                        | Pu-239     | 2.14E+00                                |
| Final Form Volumes  |           |            |           | Cellulosics |                      | 0.64                          | Pu-240     | 4.82E-01                                |
| ContainerType   | Stored    | Proj.      | Total     | Rubber      |                      | 0.11                          | Pu-241     | 5.36E+00                                |
| Drum  | 67.2      | 0.0        | 67.2      | Plastics    |                      | 22.47                         | Pu-242     | 4.97E-05                                |
| Final Form Total  | 67.2      | 0.0        | 67.2      | Solidified, | Inorganic Matrix     | 0.00                          | Th-229     | 3.57E-09                                |
|   |           |            |           | Cement (S   | olidified)           | 0.00                          | Th-230     | 2.29E-10                                |
|   |           |            |           | Vitrified   |                      | 0.00                          | Th-232     | 1.41E-18                                |
|   |           |            |           | Solidified, | Organic Matrix       | 0.00                          | U-233      | 1.90E-05                                |
|   |           |            |           | Soils       |                      | 0.00                          | U-234      | 1.29E-05                                |
|   |           |            |           | Packaging   | Material, Steel      | 127.43                        | U-235      | 3.99E-06                                |
|   |           |            |           | Packaging   | Material, Plastic    | 45.81                         | U-236      | 2.86E-08                                |
|   |           |            |           | Packaging   | Material, Lead       | 0.00                          | U-238      | 2.02E-06                                |
|   |           |            |           | Packaging   | Material, Steel Plug | 0.00                          |            |   |
| Waste Stream Description<br>N/A   |           |            |           |             |                      |                               |            |   |
| Management Comments<br>N/A  |           |            |           |             |                      |                               |            |   |

#### Waste Stream ID: WP-INW247.001R1

| ocal ID N/A Handling CH Final Waste Form Inorganic Non-Met | Waste Matrix Code S5122        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|--|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                               | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A  Waste Volume Detail (m3)        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  | Iron-Base Metal/Alloys         | 0.01                          | Am-241          | 4.84E-01                            |
|  | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 3.08E-07                            |
|  | Other Metal/Alloys             | 0.01                          | Pu-238          | 1.09E-01                            |
|  | Other Inorganic Materials      | 235.08                        | Pu-239          | 2.55E+00                            |
| Final Form Volumes   | Cellulosics                    | 19.17                         | Pu-240          | 5.81E-01                            |
| ContainerType Stored Proj. Total                           | Rubber                         | 0.00                          | Pu-241          | 5.76E+00                            |
| Drum 108.4 0.0 108   | Plastics                       | 1.22                          | Pu-242          | 4.42E-05                            |
| <b>Final Form Total</b> 108.4 0.0 108                      | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 6.67E-09                            |
| Tillari Silii Total  | Cement (Solidified)            | 0.00                          | Th-230          | 7.32E-12                            |
|  | Vitrified                      | 0.00                          | Th-232          | 1.70E-18                            |
|  | Solidified, Organic Matrix     | 0.00                          | U-233           | 3.56E-05                            |
|  | Soils                          | 0.00                          | U-234           | 7.16E-07                            |
|  | Packaging Material, Steel      | 127.43                        | U-235           | 3.59E-08                            |
|  | Packaging Material, Plastic    | 43.88                         | U-236           | 3.45E-08                            |
|  | Packaging Material, Lead       | 0.00                          | U-238           | 1.33E-14                            |
|  | Packaging Material, Steel Plug | 0.00                          | <u> </u>        |                                     |
| Waste Stream Description N/A                               |                                |                               |                 |                                     |

| ocal ID N/A Handling CH Final Waste Fo             | rm Ino | organic N | lon-Metal | Waste Matrix Code S5126        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|--------|-----------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                       |        |           |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |        |           |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |        |           |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241          | 3.71E-01                            |
|  |        |           |           | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 5.68E-07                            |
|  |        |           |           | Other Metal/Alloys             | 0.00                          | Pu-238          | 1.12E-01                            |
|  |        |           |           | Other Inorganic Materials      | 326.14                        | Pu-239          | 2.65E+00                            |
| Final Form Volumes                                 |        |           |           | Cellulosics                    | 4.57                          | Pu-240          | 6.06E-01                            |
| ContainerType Store                                |        | Proj.     | Total     | Rubber                         | 0.00                          | Pu-241          | 5.14E+00                            |
| Drum 1   | 0.3    | 0.0       | 10.3      | Plastics                       | 3.69                          | Pu-242          | 4.46E-05                            |
| Final Form Total 1                                 | 0.3    | 0.0       | 10.3      | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 9.17E-16                            |
|  |        |           |           | Cement (Solidified)            | 0.00                          | Th-230          | 3.67E-11                            |
|  |        |           |           | Vitrified                      | 0.00                          | Th-232          | 1.11E-17                            |
|  |        |           |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 5.93E-12                            |
|  |        |           |           | Soils                          | 0.00                          | U-234           | 1.62E-06                            |
|  |        |           |           | Packaging Material, Steel      | 128.57                        | U-235           | 2.84E-08                            |
|  |        |           |           | Packaging Material, Plastic    | 38.19                         | U-236           | 8.99E-08                            |
|  |        |           |           | Packaging Material, Lead       | 0.00                          | U-238           | 3.37E-14                            |
|  |        |           |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |
| Waste Stream Description N/A                       |        |           |           |                                |                               |                 |                                     |

| HQ ID         N/A         Stream Na           Local ID         N/A         Handl | me GRAPHITE MOLDS DEB | RIS<br>ste Form | Inorganic I | Non-Metal | Waste Matrix Code S5126        | Activity Co                   |         | ory Date 9/30/2002                  |
|--|-----------------------|-----------------|-------------|-----------|--------------------------------|-------------------------------|---------|-------------------------------------|
| Final Waste Form Descriptors   | <u> </u>              | L               |             |           | Waste Material Parameters      | ·                             |         | Radionuclides                       |
| Category: N/A Waste Volume Detail (m3)   | Source: N/A           |                 |             |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope | Typical<br>Concentration<br>(Ci/m3) |
|  |                       |                 |             |           | Iron-Base Metal/Alloys         | 0.00                          | Am-241  | 3.84E-01                            |
|  |                       |                 |             |           | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237  | 5.90E-07                            |
|  |                       |                 |             |           | Other Metal/Alloys             | 0.00                          | Pu-238  | 1.07E-01                            |
|  |                       |                 |             |           | Other Inorganic Materials      | 317.56                        | Pu-239  | 2.48E+00                            |
| Final Form Volumes   |                       |                 |             |           | Cellulosics                    | 8.66                          | Pu-240  | 5.79E-01                            |
| ContainerType  |                       | Stored          | Proj.       | Total     | Rubber                         | 0.00                          | Pu-241  | 4.91E+00                            |
| Drum   |                       | 16.2            | 0.0         | 16.2      | Plastics                       | 0.00                          | Pu-242  | 4.22E-05                            |
|  | Final Form Total      | 16.2            | 0.0         | 16.2      | Solidified, Inorganic Matrix   | 0.00                          | Th-229  | 1.23E-08                            |
|  |                       |                 |             | <u> </u>  | Cement (Solidified)            | 0.00                          | Th-230  | 3.91E-11                            |
|  |                       |                 |             |           | Vitrified                      | 0.00                          | Th-232  | 1.06E-17                            |
|  |                       |                 |             |           | Solidified, Organic Matrix     | 0.00                          | U-233   | 2.62E-05                            |
|  |                       |                 |             |           | Soils                          | 0.00                          | U-234   | 1.64E-06                            |
|  |                       |                 |             |           | Packaging Material, Steel      | 128.57                        | U-235   | 4.07E-08                            |
|  |                       |                 |             |           | Packaging Material, Plastic    | 41.82                         | U-236   | 8.59E-08                            |
|  |                       |                 |             |           | Packaging Material, Lead       | 0.00                          | U-238   | 3.18E-14                            |
|  |                       |                 |             |           | Packaging Material, Steel Plug | 0.00                          |         |                                     |
| Waste Stream Description N/A   |                       |                 |             |           |                                |                               |         |                                     |
| <b>Management Comments</b><br>N/A  |                       |                 |             |           |                                |                               |         |                                     |

| Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal | Waste Matrix Code S5126        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|---|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                                  | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)            | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   | Iron-Base Metal/Alloys         | 0.04                          | Am-241          | 1.23E+00                            |
|   | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 7.78E-07                            |
|   | Other Metal/Alloys             | 0.04                          | Pu-238          | 3.46E-01                            |
|   | Other Inorganic Materials      | 326.03                        | Pu-239          | 8.03E+00                            |
| Final Form Volumes  | Cellulosics                    | 8.55                          | Pu-240          | 1.83E+00                            |
| ContainerType Stored Proj. Total                              | Rubber                         | 0.00                          | Pu-241          | 1.80E+01                            |
| Drum 185.8 0.0 185.8  | Plastics                       | 1.30                          | Pu-242          | 1.36E-04                            |
| Final Form Total 185.8 0.0 185.8                              | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.94E-08                            |
|   | Cement (Solidified)            | 0.00                          | Th-230          | 2.57E-11                            |
|   | Vitrified                      | 0.00                          | Th-232          | 5.37E-18                            |
|   | Solidified, Organic Matrix     | 0.00                          | U-233           | 1.57E-04                            |
|   | Soils                          | 0.00                          | U-234           | 2.41E-06                            |
|   | Packaging Material, Steel      | 127.43                        | U-235           | 1.56E-07                            |
|   | Packaging Material, Plastic    | 42.50                         | U-236           | 1.09E-07                            |
|   | Packaging Material, Lead       | 0.00                          | U-238           | 4.09E-09                            |
|   | Packaging Material, Steel Plug | 0.00                          | <u> </u>        |                                     |
| Waste Stream Description N/A                                  |                                |                               |                 |                                     |

| Final Waste Form Descriptors           |                  |        |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|--|------------------|--------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Waste Volume Detail (m3) | Source: N/A      |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|  |                  |        |       |       | Iron-Base Metal/Alloys         | 0.26                          | Am-241     | 1.24E+00                            |
|  |                  |        |       |       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 7.86E-07                            |
|  |                  |        |       |       | Other Metal/Alloys             | 0.17                          | Pu-238     | 2.91E-01                            |
|  |                  |        |       |       | Other Inorganic Materials      | 324.21                        | Pu-239     | 6.76E+00                            |
| Final Form Volumes                     |                  |        |       |       | Cellulosics                    | 2.11                          | Pu-240     | 1.54E+00                            |
| ContainerType                          |                  | Stored | Proj. | Total | Rubber                         | 0.00                          | Pu-241     | 1.51E+01                            |
| Drum                                   |                  | 46.6   | 0.0   | 46.6  | Plastics                       | 3.08                          | Pu-242     | 1.14E-04                            |
|  | Final Form Total | 46.6   | 0.0   | 46.6  | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 1.04E-07                            |
|  |                  |        |       |       | Cement (Solidified)            | 0.00                          | Th-230     | 4.13E-11                            |
|  |                  |        |       |       | Vitrified                      | 0.00                          | Th-232     | 4.52E-18                            |
|  |                  |        |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 5.56E-04                            |
|  |                  |        |       |       | Soils                          | 0.00                          | U-234      | 3.12E-06                            |
|  |                  |        |       |       | Packaging Material, Steel      | 127.43                        | U-235      | 4.84E-07                            |
|  |                  |        |       |       | Packaging Material, Plastic    | 46.30                         | U-236      | 9.16E-08                            |
|  |                  |        |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 3.45E-14                            |
|  |                  |        |       |       | Packaging Material, Steel Plug | 0.00                          | <u> </u>   |                                     |
| Waste Stream Description<br>N/A        |                  |        |       |       |                                |                               |            |                                     |
| N/A  Management Comments N/A           |                  |        |       |       |                                |                               |            |                                     |

### Waste Stream ID: WP-INW296.001-A

| Final Waste Form Descriptors                        |        |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|---|--------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source: N/A  Waste Volume Detail (m3) |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   |        |       |       | Iron-Base Metal/Alloys         | 5.29                          | Am-241     | 2.17E+00                            |
|   |        |       |       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 1.39E-06                            |
|   |        |       |       | Other Metal/Alloys             | 352.08                        | Pu-238     | 2.96E-01                            |
|   |        |       |       | Other Inorganic Materials      | 9.46                          | Pu-239     | 7.24E+00                            |
| Final Form Volumes                                  |        |       |       | Cellulosics                    | 0.62                          | Pu-240     | 1.65E+00                            |
| ContainerType                                       | Stored | Proj. | Total | Rubber                         | 0.34                          | Pu-241     | 1.66E+01                            |
| Drum  | 10.9   | 0.0   | 10.9  | Plastics                       | 0.69                          | Pu-242     | 1.33E-04                            |
| Final Form Tota                                     | 10.9   | 0.0   | 10.9  | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 3.77E-16                            |
| i mai i sim i si                                    |        |       | 1010  | Cement (Solidified)            | 0.00                          | Th-230     | 4.64E-11                            |
|   |        |       |       | Vitrified                      | 0.00                          | Th-232     | 4.82E-18                            |
|   |        |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 6.04E-12                            |
|   |        |       |       | Soils                          | 0.00                          | U-234      | 3.42E-06                            |
|   |        |       |       | Packaging Material, Steel      | 127.43                        | U-235      | 5.72E-07                            |
|   |        |       |       | Packaging Material, Plastic    | 39.32                         | U-236      | 9.76E-08                            |
|   |        |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 4.00E-14                            |
|   |        |       |       | Packaging Material, Steel Plug | 0.00                          |            |                                     |
| Waste Stream Description N/A                        |        |       |       |                                |                               |            |                                     |

### Waste Stream ID: WP-INW296.001-B

| Sand Monte Form Descriptors     |         |       |       | Waste Material Parameters      |                               | Final Farm | Radionuclides                       |
|---------------------------------|---------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| N/A   Source:   N/A             |         |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|                                 |         |       |       | Iron-Base Metal/Alloys         | 4.90                          | Am-241     | 8.36E-01                            |
|                                 |         |       |       | Aluminum-Base Metal/Alloys     | 0.46                          | Np-237     | 5.34E-07                            |
|                                 |         |       |       | Other Metal/Alloys             | 204.23                        | Pu-238     | 1.40E-01                            |
|                                 |         |       |       | Other Inorganic Materials      | 11.53                         | Pu-239     | 3.45E+00                            |
| Final Form Volumes              |         |       |       | Cellulosics                    | 0.82                          | Pu-240     | 7.84E-01                            |
| ContainerType                   | Stored  | Proj. | Total | Rubber                         | 1.95                          | Pu-241     | 8.04E+00                            |
| Drum                            | 81.1    | 0.0   | 81.1  | Plastics                       | 4.56                          | Pu-242     | 6.57E-05                            |
| Final Form Tota                 | al 81.1 | 0.0   | 81.1  | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 1.28E-08                            |
|                                 | ~·      |       |       | Cement (Solidified)            | 0.00                          | Th-230     | 7.16E-11                            |
|                                 |         |       |       | Vitrified                      | 0.00                          | Th-232     | 2.30E-18                            |
|                                 |         |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 6.83E-05                            |
|                                 |         |       |       | Soils                          | 0.00                          | U-234      | 4.38E-06                            |
|                                 |         |       |       | Packaging Material, Steel      | 127.43                        | U-235      | 1.13E-06                            |
|                                 |         |       |       | Packaging Material, Plastic    | 45.88                         | U-236      | 4.65E-08                            |
|                                 |         |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 1.46E-06                            |
|                                 |         |       |       | Packaging Material, Steel Plug | 0.00                          |            |                                     |
| Waste Stream Description<br>N/A |         |       |       |                                |                               |            |                                     |

#### Waste Stream ID: WP-LA-TA-55-19.01-A

N/A

| ocal ID N/A Handling   | CH Final V      | Vaste Form   | Combustib | ole   | Waste Matrix Code S5300        | Activity Co                   | ncentrations De | ecayed to CY 200                   |
|--|-----------------|--------------|-----------|-------|--------------------------------|-------------------------------|-----------------|------------------------------------|
| Final Waste Form Descriptors   |                 |              |           |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                      |
| Category: N/A Solution Solutio | urce: N/A       |              |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentratio<br>(Ci/m3) |
|  |                 |              |           |       | Iron-Base Metal/Alloys         | 3.57                          | Am-241          | 2.18E-01                           |
|  |                 |              |           |       | Aluminum-Base Metal/Alloys     | 0.00                          | Am-243          | 4.75E-05                           |
|  |                 |              |           |       | Other Metal/Alloys             | 0.09                          | Cs-137          | 9.75E-08                           |
|  |                 |              |           |       | Other Inorganic Materials      | 0.34                          | Np-237          | 1.08E-05                           |
| Final Form Volumes   |                 |              |           |       | Cellulosics                    | 61.11                         | Pu-238          | 9.01E-02                           |
| ContainerType  |                 | Stored       | Proj.     | Total | Rubber                         | 0.20                          | Pu-239          | 3.56E-01                           |
| Drum   |                 | 5.9          | 0.0       | 5.9   | Plastics                       | 94.17                         | Pu-240          | 8.62E-02                           |
|  | Final Form Tota | <b>1</b> 5.9 | 0.0       | 5.9   | Solidified, Inorganic Matrix   | 0.00                          | Pu-241          | 1.10E+00                           |
|  |                 |              |           |       | Cement (Solidified)            | 0.00                          | Pu-242          | 3.55E-06                           |
|  |                 |              |           |       | Vitrified                      | 0.00                          | Th-229          | 8.76E-15                           |
|  |                 |              |           |       | Solidified, Organic Matrix     | 0.00                          | Th-230          | 4.10E-06                           |
|  |                 |              |           |       | Soils                          | 0.00                          | Th-232          | 2.53E-19                           |
|  |                 |              |           |       | Packaging Material, Steel      | 101.19                        | U-233           | 9.36E-11                           |
|  |                 |              |           |       | Packaging Material, Plastic    | 0.77                          | U-234           | 4.49E-04                           |
|  |                 |              |           |       | Packaging Material, Lead       | 0.00                          | U-235           | 2.30E-05                           |
|  |                 |              |           |       | Packaging Material, Steel Plug | 0.00                          | U-236           | 5.11E-09                           |
|  |                 |              |           |       |                                |                               | U-238           | 1.07E-15                           |

#### Waste Stream ID: WP-LA-TA-55-19.01-B

N/A

|   | al Waste Form |       |       |                                | ,                             |            | ecayed to CY 200                   |
|---|---------------|-------|-------|--------------------------------|-------------------------------|------------|------------------------------------|
| Final Waste Form Descriptors                        |               |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                      |
| Category: N/A Source: N/A  Waste Volume Detail (m3) |               |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentratio<br>(Ci/m3) |
|   |               |       |       | Iron-Base Metal/Alloys         | 55.08                         | Am-241     | 6.73E-01                           |
|   |               |       |       | Aluminum-Base Metal/Alloys     | 0.03                          | Am-243     | 4.62E-05                           |
|   |               |       |       | Other Metal/Alloys             | 0.10                          | Cs-137     | 6.34E-10                           |
|   |               |       |       | Other Inorganic Materials      | 0.26                          | Np-237     | 3.77E-05                           |
| Final Form Volumes                                  |               |       |       | Cellulosics                    | 1.94                          | Pu-238     | 2.36E-01                           |
| ContainerType                                       | Stored        | Proj. | Total | Rubber                         | 2.34                          | Pu-239     | 2.83E+00                           |
| SWB   | 75.2          | 0.0   | 75.2  | Plastics                       | 21.32                         | Pu-240     | 6.94E-01                           |
| Final Form T  | otal 75.2     | 0.0   | 75.2  | Solidified, Inorganic Matrix   | 0.00                          | Pu-241     | 8.56E+00                           |
|   |               |       |       | Cement (Solidified)            | 0.00                          | Pu-242     | 2.14E-03                           |
|   |               |       |       | Vitrified                      | 0.00                          | Th-229     | 3.06E-14                           |
|   |               |       |       | Solidified, Organic Matrix     | 0.00                          | Th-230     | 2.09E-08                           |
|   |               |       |       | Soils                          | 0.00                          | Th-232     | 2.03E-18                           |
|   |               |       |       | Packaging Material, Steel      | 154.26                        | U-233      | 3.27E-10                           |
|   |               |       |       | Packaging Material, Plastic    | 0.00                          | U-234      | 1.16E-03                           |
|   |               |       |       | Packaging Material, Lead       | 0.00                          | U-235      | 8.51E-07                           |
|   |               |       |       | Packaging Material, Steel Plug | 0.00                          | U-236      | 4.12E-08                           |
|   |               |       |       |                                | <u>-</u>                      | U-238      | 6.78E-07                           |

### Waste Stream ID: WP-LA-TA-55-43.01

| Local ID N/A Handling CH Final Waste Form Heterogeneous Debris | Waste Matrix Code S5400        | riourney Go                   |            | ecayed to CY 2002                   |
|--|--------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors                                   | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|  | Iron-Base Metal/Alloys         | 45.92                         | Am-241     | 1.11E-03                            |
|  | Aluminum-Base Metal/Alloys     | 0.11                          | Am-243     | 5.04E-08                            |
|  | Other Metal/Alloys             | 0.39                          | Np-237     | 1.37E-07                            |
|  | Other Inorganic Materials      | 0.13                          | Pu-238     | 2.19E+00                            |
| Final Form Volumes   | Cellulosics                    | 1.22                          | Pu-239     | 1.70E-03                            |
| ContainerType Stored Proj. Total                               | Rubber                         | 0.19                          | Pu-240     | 7.19E-04                            |
| SWB 189.9 0.0 189.9  | Plastics                       | 8.91                          | Pu-241     | 3.04E-02                            |
| Final Form Total 189.9 0.0 189.9                               | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 1.77E-06                            |
|  | Cement (Solidified)            | 0.00                          | Th-229     | 4.35E-16                            |
|  | Vitrified                      | 0.00                          | Th-230     | 4.58E-09                            |
|  | Solidified, Organic Matrix     | 0.00                          | Th-232     | 1.38E-08                            |
|  | Soils                          | 0.00                          | U-233      | 2.32E-12                            |
|  | Packaging Material, Steel      | 154.26                        | U-234      | 1.40E-04                            |
|  | Packaging Material, Plastic    | 0.00                          | U-235      | 6.71E-12                            |
|  | Packaging Material, Lead       | 0.00                          | U-236      | 8.53E-11                            |
|  | Packaging Material, Steel Plug | 0.00                          | U-238      | 1.07E-15                            |
| Waste Stream Description N/A                                   |                                |                               |            |                                     |

#### Waste Stream ID: WP-RF001.01

| Local ID N/A Handling CH Final Waste Fo            | orm C | ombusub | nie   | Waste Matrix Code S5390        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|-------|---------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                       |       |         |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |       |         |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |       |         |       | Iron-Base Metal/Alloys         | 1.04                          | Am-241          | 2.17E-01                            |
|  |       |         |       | Aluminum-Base Metal/Alloys     | 0.01                          | Am-243          | 1.37E-09                            |
|  |       |         |       | Other Metal/Alloys             | 0.06                          | Np-237          | 5.97E-05                            |
|  |       |         |       | Other Inorganic Materials      | 0.12                          | Pu-238          | 3.01E-02                            |
| Final Form Volumes                                 |       |         |       | Cellulosics                    | 25.89                         | Pu-239          | 8.61E-01                            |
| ContainerType Stor                                 |       | Proj.   | Total | Rubber                         | 0.27                          | Pu-240          | 1.96E-01                            |
|  | 54.4  | 0.0     | 454.4 | Plastics                       | 85.53                         | Pu-241          | 1.36E+00                            |
| SWB 2  | 22.6  | 0.0     | 22.6  | Solidified, Inorganic Matrix   | 0.00                          | Pu-242          | 1.75E-05                            |
| Final Form Total 4                                 | 77.0  | 0.0     | 477.0 | Cement (Solidified)            | 0.00                          | Th-229          | 1.27E-07                            |
|  |       |         |       | Vitrified                      | 0.00                          | Th-230          | 2.55E-09                            |
|  |       |         |       | Solidified, Organic Matrix     | 0.00                          | Th-232          | 3.24E-17                            |
|  |       |         |       | Soils                          | 0.00                          | U-233           | 9.04E-05                            |
|  |       |         |       | Packaging Material, Steel      | 138.88                        | U-234           | 1.96E-05                            |
|  |       |         |       | Packaging Material, Plastic    | 20.82                         | U-235           | 5.39E-06                            |
|  |       |         |       | Packaging Material, Lead       | 0.00                          | U-236           | 8.74E-08                            |
|  |       |         |       | Packaging Material, Steel Plug | 0.00                          | U-238           | 1.61E-07                            |
| Waste Stream Description N/A                       |       |         |       |                                |                               |                 |                                     |

#### Waste Stream ID: WP-RF002.01-A

N/A

| ocal ID N/A Handling CH Final Was                   | te Form∪ | Incategori | zed Metal | Waste Matrix Code S5111        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|---|----------|------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                        |          |            |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A  Waste Volume Detail (m3) |          |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   |          |            |           | Iron-Base Metal/Alloys         | 278.65                        | Am-241          | 2.79E-01                            |
|   |          |            |           | Aluminum-Base Metal/Alloys     | 0.02                          | Am-243          | 8.94E-07                            |
|   |          |            |           | Other Metal/Alloys             | 0.20                          | Np-237          | 2.60E-06                            |
|   |          |            |           | Other Inorganic Materials      | 0.22                          | Pu-238          | 5.48E-02                            |
| Final Form Volumes                                  |          |            |           | Cellulosics                    | 7.84                          | Pu-239          | 1.32E+00                            |
| ContainerType                                       | Stored   | Proj.      | Total     | Rubber                         | 0.01                          | Pu-240          | 3.01E-01                            |
| Drum  | 145.7    | 0.0        | 145.7     | Plastics                       | 6.81                          | Pu-241          | 4.09E+00                            |
| SWB   | 204.9    | 0.0        | 204.9     | Solidified, Inorganic Matrix   | 0.01                          | Pu-242          | 2.89E-05                            |
| Final Form Total                                    | 350.7    | 0.0        | 350.7     | Cement (Solidified)            | 0.00                          | Th-229          | 2.01E-08                            |
|   |          |            |           | Vitrified                      | 0.00                          | Th-230          | 2.27E-09                            |
|   |          |            |           | Solidified, Organic Matrix     | 0.00                          | Th-232          | 5.51E-18                            |
|   |          |            |           | Soils                          | 0.00                          | U-233           | 4.29E-05                            |
|   |          |            |           | Packaging Material, Steel      | 147.79                        | U-234           | 5.09E-05                            |
|   |          |            |           | Packaging Material, Plastic    | 11.95                         | U-235           | 2.08E-06                            |
|   |          |            |           | Packaging Material, Lead       | 0.00                          | U-236           | 4.46E-08                            |
|   |          |            |           | Packaging Material, Steel Plug | 0.00                          | U-238           | 1.46E-06                            |

#### Waste Stream ID: WP-RF002.01-B

| Local ID N/A Handling           | CH Final Was     | ste Form | Combustib | ole   | Waste Matrix Code S5390        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|---------------------------------|------------------|----------|-----------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors    |                  |          |           |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Sour              | rce: N/A         |          |           |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|                                 |                  |          |           |       | Iron-Base Metal/Alloys         | 116.19                        | Am-241          | 5.47E-01                            |
|                                 |                  |          |           |       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 8.59E-07                            |
|                                 |                  |          |           |       | Other Metal/Alloys             | 0.00                          | Pu-238          | 6.31E-02                            |
|                                 |                  |          |           |       | Other Inorganic Materials      | 0.00                          | Pu-239          | 2.38E+00                            |
| Final Form Volumes              |                  |          |           |       | Cellulosics                    | 12.86                         | Pu-240          | 5.42E-01                            |
| ContainerType                   |                  | Stored   | Proj.     | Total | Rubber                         | 0.00                          | Pu-241          | 4.28E+00                            |
| Drum                            |                  | 0.2      | 0.0       | 0.2   | Plastics                       | 16.19                         | Pu-242          | 4.44E-05                            |
|                                 | Final Form Total | 0.2      | 0.0       | 0.2   | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 1.41E-15                            |
|                                 | [                |          |           |       | Cement (Solidified)            | 0.00                          | Th-230          | 2.07E-11                            |
|                                 |                  |          |           |       | Vitrified                      | 0.00                          | Th-232          | 9.92E-18                            |
|                                 |                  |          |           |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 9.07E-12                            |
|                                 |                  |          |           |       | Soils                          | 0.00                          | U-234           | 9.13E-07                            |
|                                 |                  |          |           |       | Packaging Material, Steel      | 138.10                        | U-235           | 1.17E-08                            |
|                                 |                  |          |           |       | Packaging Material, Plastic    | 23.81                         | U-236           | 8.03E-08                            |
|                                 |                  |          |           |       | Packaging Material, Lead       | 0.00                          | U-238           | 3.35E-14                            |
|                                 |                  |          |           |       | Packaging Material, Steel Plug | 0.00                          |                 |                                     |
| Waste Stream Description<br>N/A |                  |          |           |       |                                |                               |                 |                                     |

#### Waste Stream ID: WP-RF003.01

N/A

| ocal ID N/A                            | Handling CH Final Was | ste Form li | norganic N | Non-Metal | Waste Matrix Code S5126        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|-----------------------|-------------|------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descrip               | otors                 |             |            |           | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Waste Volume Detail (m3) | Source: N/A           |             |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |                       |             |            |           | Iron-Base Metal/Alloys         | 9.86                          | Am-241          | 6.34E+00                            |
|  |                       |             |            |           | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 2.05E-05                            |
|  |                       |             |            |           | Other Metal/Alloys             | 0.00                          | Pu-238          | 1.33E+00                            |
|  |                       |             |            |           | Other Inorganic Materials      | 36.02                         | Pu-239          | 3.80E+01                            |
| Final Form Volumes                     |                       |             |            |           | Cellulosics                    | 158.98                        | Pu-240          | 8.68E+00                            |
| ContainerType                          |                       | Stored      | Proj.      | Total     | Rubber                         | 0.00                          | Pu-241          | 1.02E+02                            |
| Drum                                   |                       | 11.5        | 0.0        | 11.5      | Plastics                       | 1.53                          | Pu-242          | 6.99E-04                            |
| Pipe OP                                |                       | 220.7       | 0.0        | 220.7     | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 1.64E-08                            |
|  | Final Form Total      | 232.3       | 0.0        | 232.3     | Cement (Solidified)            | 0.00                          | Th-230          | 1.18E-09                            |
|  | [                     |             |            |           | Vitrified                      | 0.00                          | Th-232          | 1.59E-16                            |
|  |                       |             |            |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 3.50E-05                            |
|  |                       |             |            |           | Soils                          | 0.00                          | U-234           | 3.59E-05                            |
|  |                       |             |            |           | Packaging Material, Steel      | 504.72                        | U-235           | 7.23E-07                            |
|  |                       |             |            |           | Packaging Material, Plastic    | 23.86                         | U-236           | 1.29E-06                            |
|  |                       |             |            |           | Packaging Material, Lead       | 0.00                          | U-238           | 2.89E-08                            |
|  |                       |             |            |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

Waste Stream ID: WP-RF004.01

N/A

|   |                                |                               | _               | ory Date 9/30/2002                  |
|---|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Local ID N/A Handling CH Final Waste Form Inorganic Non-Metal | Waste Matrix Code S5122        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
| Final Waste Form Descriptors                                  | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)            | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   | Iron-Base Metal/Alloys         | 0.19                          | Am-241          | 1.07E-01                            |
|   | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 1.49E-06                            |
|   | Other Metal/Alloys             | 0.00                          | Pu-238          | 3.64E-02                            |
|   | Other Inorganic Materials      | 220.02                        | Pu-239          | 8.98E-01                            |
| Final Form Volumes  | Cellulosics                    | 11.64                         | Pu-240          | 2.07E-01                            |
| ContainerType Stored Proj. Total                              | Rubber                         | 0.00                          | Pu-241          | 2.38E+00                            |
| Drum 5.7 0.0 5.7  | Plastics                       | 15.73                         | Pu-242          | 1.46E-05                            |
| <b>Final Form Total</b> 5.7 0.0 5.7                           | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 4.46E-15                            |
|   | Cement (Solidified)            | 0.00                          | Th-230          | 8.01E-10                            |
|   | Vitrified                      | 0.00                          | Th-232          | 2.42E-18                            |
|   | Solidified, Organic Matrix     | 0.00                          | U-233           | 2.41E-11                            |
|   | Soils                          | 0.00                          | U-234           | 2.25E-05                            |
|   | Packaging Material, Steel      | 138.10                        | U-235           | 7.15E-07                            |
|   | Packaging Material, Plastic    | 25.08                         | U-236           | 2.45E-08                            |
|   | Packaging Material, Lead       | 0.00                          | U-238           | 6.29E-09                            |
|   | Packaging Material, Steel Plug | 0.00                          |                 |                                     |
| Waste Stream Description N/A                                  |                                |                               |                 |                                     |

#### Waste Stream ID: WP-RF005.01

| Final Waste Form Descriptors                       |        |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|--|--------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source: N/A Waste Volume Detail (m3) |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|  |        |       |       | Iron-Base Metal/Alloys         | 18.86                         | Am-241     | 4.29E+01                            |
|  |        |       |       | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 7.51E-05                            |
|  |        |       |       | Other Metal/Alloys             | 3.04                          | Pu-238     | 1.31E+00                            |
|  |        |       |       | Other Inorganic Materials      | 19.08                         | Pu-239     | 3.87E+01                            |
| Final Form Volumes                                 |        |       |       | Cellulosics                    | 166.66                        | Pu-240     | 8.82E+00                            |
| ContainerType                                      | Stored | Proj. | Total | Rubber                         | 0.00                          | Pu-241     | 7.80E+01                            |
| Pipe OP  | 120.5  | 0.0   | 120.5 | Plastics                       | 1.71                          | Pu-242     | 5.58E-04                            |
| Final Form Total                                   | 120.5  | 0.0   | 120.5 | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 1.22E-13                            |
|  |        |       |       | Cement (Solidified)            | 0.00                          | Th-230     | 2.72E-10                            |
|  |        |       |       | Vitrified                      | 0.00                          | Th-232     | 1.03E-16                            |
|  |        |       |       | Solidified, Organic Matrix     | 0.00                          | U-233      | 8.04E-10                            |
|  |        |       |       | Soils                          | 0.00                          | U-234      | 1.51E-05                            |
|  |        |       |       | Packaging Material, Steel      | 523.81                        | U-235      | 4.79E-07                            |
|  |        |       |       | Packaging Material, Plastic    | 23.81                         | U-236      | 1.05E-06                            |
|  |        |       |       | Packaging Material, Lead       | 0.00                          | U-238      | 3.37E-13                            |
|  |        |       |       | Packaging Material, Steel Plug | 0.00                          |            |                                     |
| Waste Stream Description<br>N/A                    |        |       |       |                                |                               |            |                                     |

#### Waste Stream ID: WP-RF005.02

| aste Form | Juit                 |          | Waste Matrix Code S3141        | Activity Co   | ncentrations De  | ecayed to CY 2002                       |
|-----------|----------------------|----------|--------------------------------|---|--|---|
|           |                      |          | Waste Material Parameters      |   | Final Form   | Radionuclides                           |
|           |                      |          | Material Parameter             | Average<br>Density<br>(kg/m3)   | Isotope  | Typical<br>Concentration<br>(Ci/m3)     |
|           |                      |          | Iron-Base Metal/Alloys         | 13.77   | Am-241   | 8.05E+01                                |
|           |                      |          | Aluminum-Base Metal/Alloys     | 0.00  | Np-237   | 1.32E-04                                |
|           |                      |          | Other Metal/Alloys             | 0.23  | Pu-238   | 1.03E+00                                |
|           |                      |          | Other Inorganic Materials      | 27.16   | Pu-239   | 3.57E+01                                |
|           |                      |          | Cellulosics                    | 166.67  | Pu-240   | 8.03E+00                                |
|           | _                    |          | Rubber                         | 0.00  | Pu-241   | 6.16E+01                                |
| 78.3      | 0.0                  | 78.3     | Plastics                       | 0.00  | Pu-242   | 5.05E-04                                |
| 78.3      | 0.0                  | 78.3     | Solidified, Inorganic Matrix   | 0.00  | Th-229   | 1.98E-13                                |
|           |                      |          | Cement (Solidified)            | 0.00  | Th-230   | 3.44E-10                                |
|           |                      |          | Vitrified                      | 0.00  | Th-232   | 9.41E-17                                |
|           |                      |          | Solidified, Organic Matrix     | 0.00  | U-233  | 1.35E-09                                |
|           |                      |          | Soils                          | 0.00  | U-234  | 1.55E-05                                |
|           |                      |          | Packaging Material, Steel      | 523.81  | U-235  | 2.56E-07                                |
|           |                      |          | Packaging Material, Plastic    | 23.81   | U-236  | 9.53E-07                                |
|           |                      |          | Packaging Material, Lead       | 0.00  | U-238  | 1.02E-09                                |
|           |                      |          | Packaging Material, Steel Plug | 0.00  |  |   |
|           |                      |          |                                |   |  |   |
|           | Stored   78.3   78.3 | 78.3 0.0 | 78.3 0.0 78.3                  | Material Parameter  Iron-Base Metal/Alloys Aluminum-Base Metal/Alloys Other Metal/Alloys Other Inorganic Materials Cellulosics Rubber Plastics Solidified, Inorganic Matrix Cement (Solidified) Vitrified Solidified, Organic Matrix Soils Packaging Material, Steel Packaging Material, Plastic Packaging Material, Lead | Material Parameter   Materia | Material Parameter   Lisotope   Isotope |

Waste Stream ID: WP-RF006.01

**Management Comments** 

N/A

| ocal ID N/A Handling CH Fina                       | l Waste Form | norganic N | Non-Metal   | Waste Matrix Code S5123        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|--|--------------|------------|-------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                       |              |            |             | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |              |            |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |              |            |             | Iron-Base Metal/Alloys         | 7.84                          | Am-241          | 7.60E+00                            |
|  |              |            |             | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237          | 5.73E-05                            |
|  |              |            |             | Other Metal/Alloys             | 0.02                          | Pu-238          | 1.34E+00                            |
|  |              |            |             | Other Inorganic Materials      | 31.16                         | Pu-239          | 3.59E+01                            |
| Final Form Volumes                                 |              |            | Cellulosics | 166.67                         | Pu-240                        | 8.22E+00        |                                     |
| ContainerType                                      | Stored       | Proj.      | Total       | Rubber                         | 0.00                          | Pu-241          | 5.54E+01                            |
| Pipe OP  | 220.9        | 0.0        | 220.9       | Plastics                       | 0.60                          | Pu-242          | 1.01E-03                            |
| Final Form To                                      | otal 220.9   | 0.0        | 220.9       | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.97E-12                            |
| · ····································             |              |            |             | Cement (Solidified)            | 0.00                          | Th-230          | 1.48E-08                            |
|  |              |            |             | Vitrified                      | 0.00                          | Th-232          | 4.40E-15                            |
|  |              |            |             | Solidified, Organic Matrix     | 0.00                          | U-233           | 3.35E-09                            |
|  |              |            |             | Soils                          | 0.00                          | U-234           | 1.16E-04                            |
|  |              |            |             | Packaging Material, Steel      | 523.86                        | U-235           | 1.09E-06                            |
|  |              |            |             | Packaging Material, Plastic    | 23.81                         | U-236           | 6.59E-06                            |
|  |              |            |             | Packaging Material, Lead       | 0.00                          | U-238           | 4.93E-10                            |
|  |              |            |             | Packaging Material, Steel Plug | 0.00                          |                 |                                     |

#### Waste Stream ID: WP-RF008.01

N/A

| Local ID N/A Handling CH Final Was                 | ste Form l | norganic N | Non-Metal | Waste Matrix Code S5123        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |  |
|--|------------|------------|-----------|--------------------------------|-------------------------------|-----------------|-------------------------------------|--|
| Final Waste Form Descriptors                       | _          |            |           | Waste Material Parameters      | Waste Material Parameters     |                 | Final Form Radionuclides            |  |
| Category: N/A Source: N/A Waste Volume Detail (m3) |            |            |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |  |
|  |            |            |           | Iron-Base Metal/Alloys         | 4.95                          | Am-241          | 4.85E+00                            |  |
|  |            |            |           | Aluminum-Base Metal/Alloys     | 0.12                          | Np-237          | 6.89E-05                            |  |
|  |            |            |           | Other Metal/Alloys             | 0.15                          | Pu-238          | 1.32E+00                            |  |
|  |            |            |           | Other Inorganic Materials      | 54.26                         | Pu-239          | 2.89E+01                            |  |
| Final Form Volumes                                 |            |            |           | Cellulosics                    | 166.23                        | Pu-240          | 6.76E+00                            |  |
| ContainerType                                      | Stored     | Proj.      | Total     | Rubber                         | 0.00                          | Pu-241          | 1.01E+02                            |  |
| Drum   | 0.2        | 0.0        | 0.2       | Plastics                       | 0.04                          | Pu-242          | 7.59E-04                            |  |
| Pipe OP  | 79.8       | 0.0        | 79.8      | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 2.07E-13                            |  |
| Final Form Total                                   | 80.0       | 0.0        | 80.0      | Cement (Solidified)            | 0.00                          | Th-230          | 2.93E-10                            |  |
| 1 1  | 00.0 0.0   |            | Vitrified | 0.00                           | Th-232                        | 7.92E-17        |                                     |  |
|  |            |            |           | Solidified, Organic Matrix     | 0.00                          | U-233           | 1.12E-09                            |  |
|  |            |            |           | Soils                          | 0.00                          | U-234           | 1.57E-05                            |  |
|  |            |            |           | Packaging Material, Steel      | 522.80                        | U-235           | 2.32E-07                            |  |
|  |            |            |           | Packaging Material, Plastic    | 23.68                         | U-236           | 8.02E-07                            |  |
|  |            |            |           | Packaging Material, Lead       | 0.00                          | U-238           | 1.49E-10                            |  |
|  |            |            |           | Packaging Material, Steel Plug | 0.00                          |                 |                                     |  |
| Waste Stream Description                           |            |            |           |                                |                               |                 |                                     |  |
| N/A  |            |            |           |                                |                               |                 |                                     |  |

#### Waste Stream ID: WP-RF009.01

| Final Waste Form Descriptors                        |        |       |        | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|---|--------|-------|--------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source: N/A  Waste Volume Detail (m3) |        |       |        | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   |        |       |        | Iron-Base Metal/Alloys         | 10.10                         | Am-241     | 4.80E+01                            |
|   |        |       |        | Aluminum-Base Metal/Alloys     | 0.00                          | Np-237     | 3.08E-04                            |
|   |        |       |        | Other Metal/Alloys             | 3.93                          | Pu-238     | 9.97E-01                            |
|   |        |       |        | Other Inorganic Materials      | 16.32                         | Pu-239     | 3.92E+01                            |
| Final Form Volumes                                  |        |       |        | Cellulosics                    | 166.65                        | Pu-240     | 8.77E+00                            |
| ContainerType                                       | Stored | Proj. | Total  | Rubber                         | 0.03                          | Pu-241     | 7.12E+01                            |
| Pipe OP   | 1299.1 | 0.0   | 1299.1 | Plastics                       | 0.79                          | Pu-242     | 7.19E-04                            |
| Final Form Tota                                     | 1299.1 | 0.0   | 1299.1 | Solidified, Inorganic Matrix   | 0.00                          | Th-229     | 8.48E-13                            |
|   |        |       |        | Cement (Solidified)            | 0.00                          | Th-230     | 3.68E-10                            |
|   |        |       |        | Vitrified                      | 0.00                          | Th-232     | 1.03E-16                            |
|   |        |       |        | Solidified, Organic Matrix     | 0.00                          | U-233      | 4.70E-09                            |
|   |        |       |        | Soils                          | 0.00                          | U-234      | 1.59E-05                            |
|   |        |       |        | Packaging Material, Steel      | 523.89                        | U-235      | 2.98E-07                            |
|   |        |       |        | Packaging Material, Plastic    | 23.81                         | U-236      | 1.04E-06                            |
|   |        |       |        | Packaging Material, Lead       | 0.00                          | U-238      | 1.27E-09                            |
|   |        |       |        | Packaging Material, Steel Plug | 0.00                          |            |                                     |
| Waste Stream Description N/A                        |        |       |        |                                |                               |            |                                     |

#### Waste Stream ID: WP-RF010.01

| ocal ID N/A Ha                         | andling CH Final Wa | ste Form F | Filter |       | Waste Matrix Code S5410        | Activity Co                   | ncentrations De | ecayed to CY 200                    |
|--|---------------------|------------|--------|-------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors           |                     |            |        |       | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Waste Volume Detail (m3) | Source: N/A         |            |        |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |                     |            |        |       | Iron-Base Metal/Alloys         | 1.11                          | Am-241          | 2.58E-01                            |
|  |                     |            |        |       | Aluminum-Base Metal/Alloys     | 10.49                         | Np-237          | 2.50E-06                            |
|  |                     |            |        |       | Other Metal/Alloys             | 0.04                          | Pu-238          | 5.89E-02                            |
|  |                     |            |        |       | Other Inorganic Materials      | 4.57                          | Pu-239          | 1.39E+00                            |
| Final Form Volumes                     |                     |            |        |       | Cellulosics                    | 49.62                         | Pu-240          | 3.17E-01                            |
| ContainerType                          |                     | Stored     | Proj.  | Total | Rubber                         | 9.26                          | Pu-241          | 5.13E+00                            |
| Drum                                   |                     | 27.3       | 0.0    |       | Plastics                       | 8.31                          | Pu-242          | 3.39E-05                            |
| SWB                                    |                     | 28.2       | 0.0    | 28.2  | Solidified, Inorganic Matrix   | 0.00                          | Th-229          | 1.12E-14                            |
|  | Final Form Total    | 55.5       | 0.0    | 55.5  | Cement (Solidified)            | 0.00                          | Th-230          | 5.73E-10                            |
|  | i mai i omi i otai  |            |        | 33.3  | Vitrified                      | 0.00                          | Th-232          | 5.80E-18                            |
|  |                     |            |        |       | Solidified, Organic Matrix     | 0.00                          | U-233           | 4.90E-11                            |
|  |                     |            |        |       | Soils                          | 0.00                          | U-234           | 1.32E-05                            |
|  |                     |            |        |       | Packaging Material, Steel      | 146.50                        | U-235           | 4.04E-07                            |
|  |                     |            |        |       | Packaging Material, Plastic    | 13.26                         | U-236           | 4.69E-08                            |
|  |                     |            |        |       | Packaging Material, Lead       | 0.00                          | U-238           | 1.34E-07                            |
|  |                     |            |        |       | Packaging Material, Steel Plug | 0.00                          |                 | •                                   |

#### Waste Stream ID: WP-RF029.01-A

| HQ ID         N/A         Stream Name         HETERO           Local ID         N/A         Handling         CH | GENEOUS DEBRIS Final Waste Form | Heterogen | eous Debris | Waste Matrix Code S5420        | Activity Co                   |            | ory Date 9/30/2002<br>ecayed to CY 2002 |
|---|---------------------------------|-----------|-------------|--------------------------------|-------------------------------|------------|---|
| Final Waste Form Descriptors  |                                 |           |             | Waste Material Parameters      |                               | Final Form | Radionuclides                           |
| Category: N/A Source: N/A Waste Volume Detail (m3)  | /A                              |           |             | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3)     |
|   |                                 |           |             | Iron-Base Metal/Alloys         | 232.75                        | Am-241     | 7.27E-02                                |
|   |                                 |           |             | Aluminum-Base Metal/Alloys     | 0.00                          | Am-243     | 1.54E-08                                |
|   |                                 |           |             | Other Metal/Alloys             | 0.00                          | Np-237     | 1.52E-06                                |
|   |                                 |           |             | Other Inorganic Materials      | 0.00                          | Pu-238     | 1.26E-02                                |
| Final Form Volumes  |                                 | 1         |             | Cellulosics                    | 4.36                          | Pu-239     | 2.77E-01                                |
| ContainerType   | Stored                          | Proj.     | Total       | Rubber                         | 0.00                          | Pu-240     | 6.33E-02                                |
| SWB   | 48.9                            | 0.0       | 48.9        | Plastics                       | 1.69                          | Pu-241     | 1.34E+00                                |
| Fi  | nal Form Total 48.9             | 0.0       | 48.9        | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 8.01E-06                                |
|   |                                 |           | <u> </u>    | Cement (Solidified)            | 0.00                          | Th-229     | 4.64E-15                                |
|   |                                 |           |             | Vitrified                      | 0.00                          | Th-230     | 5.34E-10                                |
|   |                                 |           |             | Solidified, Organic Matrix     | 0.00                          | Th-232     | 7.42E-19                                |
|   |                                 |           |             | Soils                          | 0.00                          | U-233      | 2.50E-11                                |
|   |                                 |           |             | Packaging Material, Steel      | 154.73                        | U-234      | 1.49E-05                                |
|   |                                 |           |             | Packaging Material, Plastic    | 7.29                          | U-235      | 4.78E-07                                |
|   |                                 |           |             | Packaging Material, Lead       | 0.00                          | U-236      | 7.51E-09                                |
|   |                                 |           |             | Packaging Material, Steel Plug | 0.00                          | U-238      | 4.22E-09                                |
| Waste Stream Description N/A  |                                 |           |             |                                |                               |            |   |
| Management Comments<br>N/A  |                                 |           |             |                                |                               |            |   |

#### Waste Stream ID: WP-RF029.01-B

| Local ID N/A Handling CH Final Waste Form Heterogeneous | Oris Waste Matrix Code S5490   | 7.0                           |            | ecayed to CY 2002                   |
|---|--------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors                            | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)      | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   | Iron-Base Metal/Alloys         | 206.45                        | Am-241     | 3.66E-01                            |
|   | Aluminum-Base Metal/Alloys     | 2.02                          | Am-243     | 1.82E-06                            |
|   | Other Metal/Alloys             | 0.00                          | Np-237     | 5.93E-05                            |
|   | Other Inorganic Materials      | 31.08                         | Pu-238     | 2.59E-02                            |
| Final Form Volumes                                      | Cellulosics                    | 10.34                         | Pu-239     | 5.70E-01                            |
| ContainerType Stored Proj. Tot                          | Rubber                         | 1.38                          | Pu-240     | 1.30E-01                            |
| SWB 18.8 0.0  | Plastics                       | 9.80                          | Pu-241     | 2.75E+00                            |
| Final Form Total 18.8 0.0                               | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 1.65E-05                            |
|   | Cement (Solidified)            | 0.00                          | Th-229     | 1.88E-13                            |
|   | Vitrified                      | 0.00                          | Th-230     | 4.30E-09                            |
|   | Solidified, Organic Matrix     | 0.00                          | Th-232     | 1.53E-18                            |
|   | Soils                          | 0.00                          | U-233      | 1.00E-09                            |
|   | Packaging Material, Steel      | 154.74                        | U-234      | 1.20E-04                            |
|   | Packaging Material, Plastic    | 6.27                          | U-235      | 3.85E-06                            |
|   | Packaging Material, Lead       | 0.00                          | U-236      | 1.55E-08                            |
|   | Packaging Material, Steel Plug | 0.00                          | U-238      | 3.40E-08                            |
| Waste Stream Description N/A                            |                                |                               |            |                                     |

#### Waste Stream ID: WP-RF118.01

| Local ID N/A Handling CH Final Waste Form Solidified Inorganics | Waste Matrix Code S3111        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|---|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                                    | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3)              | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|   | Iron-Base Metal/Alloys         | 11.07                         | Am-241          | 6.96E+00                            |
|   | Aluminum-Base Metal/Alloys     | 0.00                          | Am-243          | 4.81E-07                            |
|   | Other Metal/Alloys             | 0.28                          | Np-237          | 3.35E-05                            |
|   | Other Inorganic Materials      | 16.42                         | Pu-238          | 1.92E+00                            |
| Final Form Volumes  | Cellulosics                    | 166.67                        | Pu-239          | 4.03E+01                            |
| ContainerType Stored Proj. Total                                | Rubber                         | 0.00                          | Pu-240          | 9.06E+00                            |
| Pipe OP 1273.4 0.0 1273.4                                       | Plastics                       | 1.23                          | Pu-241          | 1.34E+02                            |
| Final Form Total 1273.4 0.0 1273.4                              | Solidified, Inorganic Matrix   | 0.00                          | Pu-242          | 8.60E-04                            |
|   | Cement (Solidified)            | 0.00                          | Th-229          | 5.36E-14                            |
|   | Vitrified                      | 0.00                          | Th-230          | 4.33E-09                            |
|   | Solidified, Organic Matrix     | 0.00                          | Th-232          | 5.97E-17                            |
|   | Soils                          | 0.00                          | U-233           | 3.95E-10                            |
|   | Packaging Material, Steel      | 523.94                        | U-234           | 1.69E-04                            |
|   | Packaging Material, Plastic    | 23.81                         | U-235           | 5.03E-06                            |
|   | Packaging Material, Lead       | 0.00                          | U-236           | 8.06E-07                            |
|   | Packaging Material, Steel Plug | 0.00                          | U-238           | 4.35E-08                            |
| Waste Stream Description N/A                                    |                                |                               |                 |                                     |

### Waste Stream ID: WP-RLMPDT.001

| Final Waste Form Descriptors                          |                  |        |       |       | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|---|------------------|--------|-------|-------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source Waste Volume Detail (m3)         | : N/A            |        |       |       | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   |                  |        |       |       | Iron-Base Metal/Alloys         | 39.94                         | Am-241     | 2.51E-01                            |
|   |                  |        |       |       | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137     | 4.97E-08                            |
|   |                  |        |       |       | Other Metal/Alloys             | 2.43                          | Np-237     | 8.00E-08                            |
|   |                  |        |       |       | Other Inorganic Materials      | 38.92                         | Pu-238     | 9.72E-02                            |
| Final Form Volumes                                    | -                |        |       |       | Cellulosics                    | 27.16                         | Pu-239     | 1.00E+00                            |
| ContainerType   |                  | Stored | Proj. | Total | Rubber                         | 57.13                         | Pu-240     | 2.62E-01                            |
| Drum  |                  | 7.3    | 0.0   | 7.3   | Plastics                       | 54.98                         | Pu-241     | 5.08E+00                            |
|   | Final Form Total | 7.3    | 0.0   | 7.3   | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 2.81E-05                            |
|   |                  |        |       |       | Cement (Solidified)            | 0.00                          | Th-229     | 5.41E-18                            |
|   |                  |        |       |       | Vitrified                      | 0.00                          | Th-230     | 1.25E-12                            |
|   |                  |        |       |       | Solidified, Organic Matrix     | 0.00                          | Th-232     | 1.92E-19                            |
|   |                  |        |       |       | Soils                          | 0.00                          | U-233      | 1.73E-13                            |
|   |                  |        |       |       | Packaging Material, Steel      | 138.10                        | U-234      | 2.77E-07                            |
|   |                  |        |       |       | Packaging Material, Plastic    | 2.73                          | U-235      | 9.87E-10                            |
|   |                  |        |       |       | Packaging Material, Lead       | 0.00                          | U-236      | 7.76E-09                            |
|   |                  |        |       |       | Packaging Material, Steel Plug | 0.00                          | U-238      | 4.24E-15                            |
| Waste Stream Description N/A  Management Comments N/A |                  |        |       |       |                                |                               |            |                                     |

### Waste Stream ID: WP-RLNPDT.002

N/A

| Final Waste Form Descriptors                        |           | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
|---|-----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Category: N/A Source: N/A  Waste Volume Detail (m3) |           | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|   |           | Iron-Base Metal/Alloys         | 68.83                         | Am-241     | 2.60E-01                            |
|   |           | Aluminum-Base Metal/Alloys     | 1.21                          | Am-243     | 1.06E-06                            |
|   |           | Other Metal/Alloys             | 0.45                          | Cs-137     | 2.58E-06                            |
|   |           | Other Inorganic Materials      | 35.91                         | Np-237     | 1.64E-07                            |
| Final Form Volumes                                  |           | Cellulosics                    | 24.29                         | Pu-238     | 7.50E-02                            |
|   | oj. Total | Rubber                         | 7.09                          | Pu-239     | 7.97E-01                            |
| Drum 90.7   | 0.0 90.7  | Plastics                       | 45.43                         | Pu-240     | 2.14E-01                            |
| Final Form Total 90.7                               | 0.0 90.7  | Solidified, Inorganic Matrix   | 0.00                          | Pu-241     | 4.72E+00                            |
| Timur om Total                                      | 0.0       | Cement (Solidified)            | 0.00                          | Pu-242     | 2.28E-05                            |
|   |           | Vitrified                      | 0.00                          | Th-229     | 4.40E-17                            |
|   |           | Solidified, Organic Matrix     | 0.00                          | Th-230     | 3.87E-12                            |
|   |           | Soils                          | 0.00                          | Th-232     | 6.28E-19                            |
|   |           | Packaging Material, Steel      | 140.38                        | U-233      | 7.08E-13                            |
|   |           | Packaging Material, Plastic    | 3.06                          | U-234      | 4.29E-07                            |
|   |           | Packaging Material, Lead       | 0.00                          | U-235      | 1.57E-09                            |
|   |           | Packaging Material, Steel Plug | 0.00                          | U-236      | 1.27E-08                            |
|   |           | <u> </u>                       |                               | U-238      | 6.87E-15                            |

### Waste Stream ID: WP-SR2001.001.00

| Local ID N/A Handling CH Final Waste Form Comb     |          | Waste Matrix Code S5300        | ,                             |            | ecayed to CY 2002                   |
|--|----------|--------------------------------|-------------------------------|------------|-------------------------------------|
| Final Waste Form Descriptors                       |          | Waste Material Parameters      |                               | Final Form | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |          | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope    | Typical<br>Concentration<br>(Ci/m3) |
|  |          | Iron-Base Metal/Alloys         | 11.78                         | Am-241     | 6.79E-03                            |
|  |          | Aluminum-Base Metal/Alloys     | 0.00                          | Cs-137     | 9.70E-07                            |
|  |          | Other Metal/Alloys             | 0.29                          | Np-237     | 4.01E-09                            |
|  | -        | Other Inorganic Materials      | 8.29                          | Pu-238     | 1.27E-02                            |
| Final Form Volumes                                 |          | Cellulosics                    | 7.67                          | Pu-239     | 1.11E-01                            |
| ContainerType Stored Pro                           | -        | Rubber                         | 0.99                          | Pu-240     | 2.20E-02                            |
| Drum 61.7  | 0.0 61.7 | Plastics                       | 85.21                         | Pu-241     | 3.77E-01                            |
| Final Form Total 61.7                              | 0.0 61.7 | Solidified, Inorganic Matrix   | 0.00                          | Pu-242     | 2.22E-06                            |
|  |          | Cement (Solidified)            | 0.00                          | Th-229     | 1.04E-18                            |
|  |          | Vitrified                      | 0.00                          | Th-230     | 6.54E-13                            |
|  |          | Solidified, Organic Matrix     | 0.00                          | Th-232     | 6.44E-20                            |
|  |          | Soils                          | 0.00                          | U-233      | 1.69E-14                            |
|  |          | Packaging Material, Steel      | 136.73                        | U-234      | 7.25E-08                            |
|  |          | Packaging Material, Plastic    | 31.67                         | U-235      | 2.18E-10                            |
|  |          | Packaging Material, Lead       | 0.00                          | U-236      | 1.30E-09                            |
|  |          | Packaging Material, Steel Plug | 0.00                          | U-238      | 6.69E-16                            |
| Waste Stream Description N/A                       |          |                                |                               |            |                                     |
| Management Comments N/A                            |          |                                |                               |            |                                     |

#### Waste Stream ID: WP-SR-W027-221F-HETA

N/A

| _ocal ID N/A Handling CH Final Waste               | Form  | leterogen | eous Debris         | Waste Matrix Code S5440        | Activity Co                   | ncentrations De | ecayed to CY 2002                   |
|--|-------|-----------|---------------------|--------------------------------|-------------------------------|-----------------|-------------------------------------|
| Final Waste Form Descriptors                       | -     |           |                     | Waste Material Parameters      |                               | Final Form      | Radionuclides                       |
| Category: N/A Source: N/A Waste Volume Detail (m3) |       |           |                     | Material Parameter             | Average<br>Density<br>(kg/m3) | Isotope         | Typical<br>Concentration<br>(Ci/m3) |
|  |       |           |                     | Iron-Base Metal/Alloys         | 18.20                         | Am-241          | 3.85E-02                            |
|  |       |           |                     | Aluminum-Base Metal/Alloys     | 0.41                          | Cs-137          | 6.40E-07                            |
|  |       |           |                     | Other Metal/Alloys             | 0.12                          | Np-237          | 2.05E-07                            |
|  |       |           |                     | Other Inorganic Materials      | 5.07                          | Pu-238          | 1.63E-02                            |
| Final Form Volumes                                 |       |           |                     | Cellulosics                    | 13.46                         | Pu-239          | 1.39E-01                            |
| ContainerType S                                    | tored | Proj.     | Total               | Rubber                         | 1.12                          | Pu-240          | 3.89E-02                            |
| Drum   | 141.1 | 0.0       | 141.1               | Plastics                       | 64.30                         | Pu-241          | 7.47E-01                            |
| Final Form Total                                   | 141.1 | 0.0       | 141.1               | Solidified, Inorganic Matrix   | 0.11                          | Pu-242          | 1.29E-05                            |
|  | 11111 |           | Cement (Solidified) | 0.00                           | Th-229                        | 7.59E-08        |                                     |
|  |       |           |                     | Vitrified                      | 0.00                          | Th-230          | 1.19E-08                            |
|  |       |           |                     | Solidified, Organic Matrix     | 0.15                          | Th-232          | 2.85E-20                            |
|  |       |           |                     | Soils                          | 0.00                          | U-233           | 8.09E-04                            |
|  |       |           |                     | Packaging Material, Steel      | 138.10                        | U-234           | 1.32E-03                            |
|  |       |           |                     | Packaging Material, Plastic    | 34.69                         | U-235           | 4.41E-07                            |
|  |       |           |                     | Packaging Material, Lead       | 0.00                          | U-236           | 1.15E-09                            |
|  |       |           |                     | Packaging Material, Steel Plug | 0.00                          | U-238           | 1.07E-04                            |
| Waste Stream Description N/A                       |       |           |                     |                                |                               |                 |                                     |

### APPENDIX L

### WASTE STREAMS CONTAINING CHEMICAL COMPONENTS

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Appendix L - iv -

#### L.1.0 INTRODUCTION

This appendix provides waste stream information for the complexing agents, oxyanions, and cement that will be emplaced in the Waste Isolation Pilot Plant (WIPP). The total scaled masses of the complexing agents are provided in Table 28 of the main body of the report. Oxyanions and cement that are expected to fill the WIPP repository are provided in Table 29 of the main body of the report. The waste streams identified in this appendix contribute to the total concentrations provided in these two tables in the report. Specifically, Table L-1 provides the total (kg) masses of acetic acid, sodium acetate, citric acid, sodium citrate, oxalic acid, sodium oxalate, and EDTA for each waste stream scaled to a full repository as reported in Crawford and Leigh (2003) and Crawford (2004). Table L-2 provides the total (kg) masses of the oxyanions (nitrate, sulfate, and phosphate) for each waste stream in which they have been identified scaled to a full repository and reported in Crawford (2005). Finally, Table L-3 provides the scaled cement mass (in kg) and volume (in m³) by waste stream as reported in Howard (2005), and cement density.

Table L-1. Waste Streams That Contain Complexing Agents for Disposal at WIPP<sup>(a)</sup>

|              |               | Sodium  |             | Sodium  |           | Sodium  |           |
|--------------|---------------|---------|-------------|---------|-----------|---------|-----------|
| Waste Stream | Acetic Acid   | Acetate | Citric Acid | Citrate | Oxalic    | Oxalate |           |
| Identifier   | ( <b>kg</b> ) | (kg)    | (kg)        | (kg)    | Acid (kg) | (kg)    | EDTA (kg) |
| IN-W218.909  | 1.3E+02       | 1.1E+03 | 8.6E+01     | 3.8E+02 | 8.6E+01   | 0.0E+00 | 2.2E+01   |
| RF-MT0007    | 4.9E-02       | 4.1E-01 | 3.3E-02     | 1.5E-01 | 3.3E-02   | 0.0E+00 | 8.5E-03   |
| RF-MT0541    | 0.0E+00       | 0.0E+00 | 0.0E+00     | 0.0E+00 | 0.0E+00   | 0.0E+00 | 2.6E+00   |
| RF-MT0803    | 1.4E-01       | 1.2E+00 | 9.5E-02     | 4.2E-01 | 9.5E-02   | 0.0E+00 | 2.4E-02   |
| RF-MT0807    | 5.1E+00       | 4.3E+01 | 3.5E+00     | 1.6E+01 | 3.5E+00   | 0.0E+00 | 8.9E-01   |
| RP-W013      | 0.0E+00       | 0.0E+00 | 0.0E+00     | 0.0E+00 | 0.0E+00   | 2.6E+04 | 0.0E+00   |
| RP-W016      | 0.0E+00       | 7.4E+03 | 0.0E+00     | 0.0E+00 | 0.0E+00   | 6.5E+03 | 0.0E+00   |
| RP-W754      | 0.0E+00       | 0.0E+00 | 0.0E+00     | 0.0E+00 | 0.0E+00   | 1.5E+04 | 0.0E+00   |
| LA-TA-50-17  | 3.3E-01       | 0.0E+00 | 3.7E+01     | 0.0E+00 | 4.5E+02   | 0.0E+00 | 0.0E+00   |
| LA-TA-50-10  | 1.5E-03       | 0.0E+00 | 1.7E-01     | 0.0E+00 | 2.1E+00   | 0.0E+00 | 0.0E+00   |
| LA-TA-50-19  | 1.8E+00       | 0.0E+00 | 2.0E+02     | 0.0E+00 | 2.5E+03   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-38  | 1.3E+00       | 0.0E+00 | 1.4E+02     | 0.0E+00 | 1.8E+03   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-41  | 6.7E-02       | 0.0E+00 | 7.4E+00     | 0.0E+00 | 9.2E+01   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-19  | 5.0E+00       | 0.0E+00 | 5.5E+02     | 0.0E+00 | 6.8E+03   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-20  | 9.6E-01       | 0.0E+00 | 1.1E+02     | 0.0E+00 | 1.3E+03   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-43  | 9.9E-02       | 0.0E+00 | 1.1E+01     | 0.0E+00 | 1.4E+02   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-44  | 3.5E-01       | 0.0E+00 | 3.9E+01     | 0.0E+00 | 4.8E+02   | 0.0E+00 | 0.0E+00   |
| LA-TA-55-62  | 1.1E-01       | 0.0E+00 | 1.2E+01     | 0.0E+00 | 1.5E+02   | 0.0E+00 | 0.0E+00   |

(a) Complexing Agents reported in Crawford and Leigh 2003 and Crawford 2004.

Table L-2. Waste Streams Containing Oxyanions for Disposal at WIPP<sup>(a)</sup>

| Waste Stream Identifier | Nitrate (kg) | Sulfate (kg) | Phosphate (kg) |
|-------------------------|--------------|--------------|----------------|
| IN-W164.153             | 0.0E+00      | 5.4E+02      | 0.0E+00        |
| IN-W216.98              | 5.1E+05      | 7.0E+03      | 0.0E+00        |
| IN-W218.909             | 8.3E+04      | 2.1E+02      | 0.0E+00        |
| IN-W220.114             | 3.8E+04      | 1.1E+03      | 0.0E+00        |
| IN-W228.101             | 1.5E+05      | 2.0E+03      | 0.0E+00        |
| IN-W315.601             | 3.6E+03      | 0.0E+00      | 0.0E+00        |
| LA-TA-03-28             | 5.7E+02      | 9.0E+01      | 0.0E+00        |
| LA-TA-03-30             | 3.7E+01      | 3.5E+01      | 0.0E+00        |
| LA-TA-21-13             | 1.9E+03      | 2.9E+02      | 0.0E+00        |
| LA-TA-21-15             | 1.2E+02      | 2.2E+01      | 0.0E+00        |
| LA-TA-21-16             | 6.3E+03      | 5.8E+03      | 0.0E+00        |
| LA-TA-21-43             | 2.9E+05      | 4.6E+04      | 0.0E+00        |
| LA-TA-48-01             | 2.5E+00      | 4.9E+00      | 0.0E+00        |
| LA-TA-50-15             | 6.0E+03      | 1.2E+02      | 0.0E+00        |
| LA-TA-50-17             | 1.3E+04      | 2.0E+03      | 0.0E+00        |
| LA-TA-50-18             | 7.6E+03      | 1.2E+03      | 0.0E+00        |
| LATA-50-19              | 5.8E+04      | 5.4E+04      | 0.0E+00        |
| LA-TA-55-30             | 1.0E+05      | 9.6E+04      | 0.0E+00        |
| LA-TA-55-32             | 2.4E+02      | 2.3E+02      | 0.0E+00        |
| LA-TA-55-33             | 2.7E+02      | 5.2E+01      | 0.0E+00        |
| LA-TA-55-34             | 2.4E+05      | 0.0E+00      | 0.0E+00        |
| LA-TA-55-38             | 0.0E+00      | 1.8E+05      | 0.0E+00        |
| LA-TA-55-41             | 3.1E+03      | 2.9E+03      | 0.0E+00        |
| LA-TA-55-44             | 1.2E+03      | 1.1E+03      | 0.0E+00        |
| LA-TA-55-49             | 9.0E+02      | 8.3E+02      | 0.0E+00        |
| LA-TA-55-53             | 4.8E+03      | 4.5E+03      | 0.0E+00        |
| LL-W019                 | 0.0E+00      | 1.0E+03      | 0.0E+00        |
| RF-MT-0001              | 2.7E+02      | 3.8E+00      | 0.0E+00        |
| RF-MT0007               | 0.0E+00      | 9.0E-02      | 0.0E+00        |
| RF-MT0541               | 8.5E+01      | 8.5E+01      | 8.5E+01        |
| RF-MT0800               | 3.2E+03      | 8.9E+01      | 0.0E+00        |
| RF-MT0801               | 0.0E+00      | 5.5E+04      | 0.0E+00        |
| RF-MT0803               | 1.5E+02      | 2.1E+00      | 0.0E+00        |
| RF-MT0807               | 5.6E+03      | 1.4E+01      | 0.0E+00        |
| RP-W013                 | 4.4E+05      | 1.4E+04      | 1.8E+04        |
| RP-W016                 | 5.1E+05      | 1.4E+04      | 1.3E+04        |
| RP-W754                 | 7.3E+04      | 7.5E+02      | 1.1E+04        |
| RP-W755                 | 1.2E+05      | 6.9E+03      | 6.3E+04        |

(a) Oxyanions reported in Crawford (2005).

Table L-3. Waste Streams Containing Cement for Disposal at WIPP

|                             | waste Streams Containing            |                                 |                    |
|-----------------------------|-------------------------------------|---------------------------------|--------------------|
| Waste Stream                | <b>Cement Density</b>               | Scaled Volume                   | Scaled Cement Mass |
| Identifier                  | $(kg/m^3)^{(a)}$                    | $(\mathbf{m}^3)^{(\mathbf{a})}$ | (kg)               |
| AE-T003                     | 73.1 <sup>(b)</sup>                 | 0.83 <sup>(d)</sup>             | 6.2E+01            |
| AW-W012.10                  | 296.4                               | 17.62                           | 5.2E+03            |
| AW-W020.13                  | 296.4                               | 18.32                           | 5.4E+03            |
| BCLCH-MT01                  | 62.4                                | 5.24                            | 3.3E+02            |
| BCLRH-MT01                  | 18.5                                | 0.89                            | 1.6E+01            |
| BCLRH-T001                  | 33.7                                | 0.89                            | 3.0E+01            |
| BCLRH-T002                  | 25.3                                | 1.78                            | 4.5E+01            |
| BCLRH-T002                  | 17.6                                | 16.79                           | 3.0E+02            |
| BCLRH-T004                  | 17.8                                | 15.01                           | 2.7E+02            |
| BCLRH-T005                  | 72.0                                | 0.89                            | 1.5E+01            |
|                             | 16.8                                | 0.89                            | 1.5E+01            |
| BCLRH-T006                  |                                     |                                 |                    |
| BCLRH-T008                  | 16.9                                | 0.89                            | 1.5E+01            |
| BCLRH-T009                  | 35.1                                | 1.78                            | 6.3E+01            |
| BCLRH-T011                  | 283.0                               | 4.45                            | 1.3E+01            |
| IN-BN-510                   | 73.8/83.6/102.0/73.1 <sup>(b)</sup> | 121.16 <sup>(d)</sup>           | 9.5E+03            |
| IN-GEM-01                   | 116.6                               | 145.92                          | 1.7E+04            |
| IN-W157.144                 | 222.7                               | 714.25 <sup>(d)</sup>           | 1.5E+05            |
| IN-W163.1007                | 73.1 <sup>(b)</sup>                 | 11.47 <sup>(d)</sup>            | 8.4E+02            |
| IN-W164.153                 | 107.8                               | 4.79 <sup>(d)</sup>             | 5.2E+02            |
| IN-W167.149                 | 109.5                               | 383.30 <sup>(d)</sup>           | 4.2E+04            |
| IN-W179.158                 | 394.2/325.0 <sup>(b)</sup>          | 1,995.78 <sup>(d)</sup>         | 7.5E+05            |
| IN-W181.162                 | 268.5                               | 80.29                           | 2.2E+04            |
| IN-W188.160                 | 193.3                               | 149.11 <sup>(d)</sup>           | 2.9E+04            |
| IN-W216.98                  | 196.9                               | 12,743.17 <sup>(d)</sup>        | 2.5E+06            |
| IN-W218.909                 | 197.0                               | 2,082.75                        | 4.1E+05            |
| IN-W219.914                 | 146.6                               | 1.89                            | 2.8E+02            |
| IN-W220.114                 | 59.9                                | 1,892.55 <sup>(d)</sup>         | 1.1E+05            |
| IN-W221.927                 | 131.5                               | 39.20 <sup>(d)</sup>            | 5.2E+03            |
| IN-W222.116                 | 73.8                                | 259.02 <sup>(d)</sup>           | 1.9E+04            |
| IN-W228.101                 | 84.78                               | 8,063.41 <sup>(d)</sup>         | 6.8E+05            |
| IN-W315.601                 | 308.8                               | 34.41                           | 1.1E+04            |
| IN-W319.584                 | 73.1 <sup>(b)</sup>                 | 4.79 <sup>(d)</sup>             | 2.7E+02            |
| IN-W321.1023                | 73.1 <sup>(b)</sup>                 | 11.47 <sup>(d)</sup>            | 7.2E+02            |
| IN-W321.1023<br>IN-W322.851 | 2150.0 <sup>(c)</sup>               | 1.89                            | 4.1E+03            |
| IN-W322.952                 | 2150.0 <sup>(c)</sup>               | 1.66                            | 3.6E+03            |
| IN-W322.932<br>IN-W337.673  | 2150.0 <sup>(c)</sup>               | 0.21                            | 4.5E+02            |
| IN-W337.957                 | 2150.0 <sup>(c)</sup>               | 1.89                            | 4.1E+03            |
|                             | 73.1 <sup>(b)</sup>                 | 22.94 <sup>(d)</sup>            |                    |
| IN-W348.1012<br>IN-W358.854 | 2150.0 <sup>(c)</sup>               | 0.21                            | 6.0E+02<br>4.5E+02 |
|                             | 2150.0 <sup>(c)</sup>               |                                 |                    |
| IN-W358.949                 | 2150.0 <sup>(c)</sup>               | 6.06                            | 1.3E+04            |
| IN-W375.1096                | 308.8                               | 199.78 <sup>(d)</sup>           | 1.2E+04            |
| LA-TA-03-28                 | 693.0 <sup>(b)</sup>                | 5.84                            | 4.1E+03            |
| LA-TA-03-30                 | 124.1                               | 0.83                            | 1.0E+02            |
| LA-TA-03-31                 | 508.1                               | 0.21                            | 1.1E+02            |
| LA-TA-21-12                 | 514.4                               | 263.95                          | 1.4E+05            |
| LA-TA-21-13                 | 693.0                               | 16.22                           | 1.1E+04            |
| LA-TA-21-15                 | 13.4                                | 3.54                            | 4.8E+01            |
| LA-TA-21-16                 | 508.1                               | 71.67                           | 3.6E+04            |
| LA-TA-21-43                 | 693.0                               | 2,533.70                        | 1.8E+06            |
| LA-TA-48-01                 | 7.5                                 | 0.62                            | 4.6E+00            |
| LA-TA-50-10                 | 645.9 <sup>(b)</sup>                | 1.04                            | 6.7E+02            |
| LA-TA-50-15                 | 4.9                                 | 159.12                          | 7.8E+02            |
| LA-TA-50-17                 | 693.0 <sup>(b)</sup>                | 174.70                          | 1.2E+05            |
|                             | 2,5.0                               |                                 |                    |

Table L-3. Waste Streams Containing Cement for Disposal at WIPP - continued

| Waste Stream | Cement Density        | Scaled Volume                   | Cement Mass |
|--------------|-----------------------|---------------------------------|-------------|
| Identifier   | $(kg/m^3)^{(a)}$      | $(\mathbf{m}^3)^{(\mathbf{a})}$ | (kg)        |
| LA-TA-50-18  | 693.0 <sup>(b)</sup>  | 98.41                           | 6.8E+04     |
| LA-TA-50-19  | 645.9                 | 1,179.79                        | 7.6E+05     |
| LA-TA-55-30  | 4.1                   | 2,713.31                        | 1.1E+04     |
| LA-TA-55-32  | 16.4                  | 4.78                            | 7.8E+01     |
| LA-TA-55-33  | 7.4                   | 6.66                            | 4.9E+01     |
| LA-TA-55-38  | 90.0                  | 744.30                          | 6.7E+04     |
| LA-TA-55-41  | 508.1                 | 35.38                           | 1.8E+04     |
| LA-TA-55-44  | 508.1 <sup>(b)</sup>  | 230.66                          | 1.2E+05     |
| LA-TA-55-49  | 102.5                 | 18.30                           | 1.9E+03     |
| LA-TA-55-53  | 508.1 <sup>(b)</sup>  | 174.68                          | 8.9E+04     |
| LL-M001      | 143.3 <sup>(c)</sup>  | 31.11                           | 4.5E+03     |
| LL-T001      | 100.0 <sup>(b)</sup>  | 276.82                          | 2.8E+04     |
| LL-T002      | 143.3 <sup>(c)</sup>  | 1,507.73                        | 2.2E+05     |
| OR-W215      | 396.6 <sup>(b)</sup>  | 165.51 <sup>(d)</sup>           | 6.6E+04     |
| RF-MT0001    | 187.6 <sup>(b)</sup>  | 8.15                            | 1.5E+03     |
| RF-MT0002    | 130.6                 | 0.63                            | 8.2E+01     |
| RF-MT0003    | 1490.0 <sup>(c)</sup> | 1.67                            | 2.5E+03     |
| RF-MT0007    | 130.6                 | 0.83                            | 1.1E+02     |
| RF-MT-0292   | 1490.0 <sup>(c)</sup> | 23.97                           | 3.6E+04     |
| RF-MT-0299   | 1490.0 <sup>(c)</sup> | 31.06                           | 4.6E+04     |
| RF-MT-0372   | 1490.0 <sup>(c)</sup> | 1.46                            | 2.2E+03     |
| RF-MT0377    | 73.1 <sup>(b)</sup>   | 74.42                           | 5.4E+03     |
| RF-MT0800    | 193.8                 | 62.48                           | 1.2E+04     |
| RF-MT0801    | 1490.0 <sup>(c)</sup> | 101.83                          | 1.5E+05     |
| RF-MT0803    | 140.2                 | 2.29                            | 3.2E+02     |
| RF-MT0806    | 73.1 <sup>(b)</sup>   | 0.21                            | 1.5E+01     |
| RF-MT0807    | 140.2                 | 84.18                           | 1.2E+04     |
| RF-MT0823    | 1490.0 <sup>(c)</sup> | 0.21                            | 3.1E+02     |
| RF-TT0376    | 1490.0 <sup>(c)</sup> | 11.46                           | 1.7E+04     |
| RF-TT0430    | 1490.0 <sup>(c)</sup> | 0.21                            | 3.1E+04     |
| RF-TT0431    | 1490.0 <sup>(c)</sup> | 22.20                           | 3.3E+04     |
| RF-TT0802    | 1490.0 <sup>(c)</sup> | 56.43                           | 8.4E+03     |
| RF-TT0809    | 32.0 <sup>(b)</sup>   | 4.07                            | 1.3E+02     |
| RF-TT0823    | 1490.0 <sup>(c)</sup> | 0.21                            | 3.1E+02     |

- (a) Cement density and scaled waste stream volumes are reported in Howard 2005. Density is reported for the TWBID Rev. 2.1 waste stream. See Howard 2005 for addition waste stream information.
- (b) Cement densities are recorded in TWBIR Rev. 3 (DOE 1996) Appendix B-7, Table 1. Where multiple densities are reported in this table, fractions of multiple waste streams were combined, resulting in the total mass reported. Details for these calculations can be found in Howard 2005, Table 5.
- (c) Cement densities were estimated for these waste streams using the methodology described in Howard 2005.
- (d) Volume used to produce the kg mass result for this waste stream was divided among various waste streams with the densities shown in column 2. The scaled waste volume shown here is that for the entire waste stream. For details see Howard 2005.

#### REFERENCES

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#### **GLOSSARY**

**40 CFR Part 191, Protection of Environment.** EPA: Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes – The EPA's environmental standards for the storage (Subpart A) and disposal (Subpart B) of spent nuclear fuel, and high-level and TRU radioactive wastes. This is the primary post-closure standard that applies to WIPP. Subpart C of 40 CFR Part 191 establishes the requirements that apply to the performance assessments and compliance assessments that will be used to demonstrate compliance with the requirements of the disposal regulations.

**Acceptable Knowledge** - Per 40 CFR 194.2, Acceptable knowledge is any information about the process used to generate waste, material inputs to the. process, and the time period during which the waste was generated, as well as data resulting from the analysis of waste, conducted prior to or separate from the waste certification process authorized by EPA's Certification Decision, to show compliance with Condition 3 of the certification decision appendix A of this part

**Anticipated Inventory** - The sum of the stored and projected inventories, as defined in this document.

**As-Generated Waste** - The chemical and physical status of waste when it is generated. The term "as-generated" applies to both stored and projected waste as it is generated.

**Buried Waste** - TRU waste buried in shallow trenches prior to the 1970 Atomic Energy Commission policy that required TRU waste to be retrievably stored. This waste is left in place for the majority of DOE TRU waste generator sites with the exception of INEEL. INEEL has been ordered by the state to remove and dispose of their buried waste.

**Cement** - A dry powder made from silica, alumina, lime, iron oxide, and magnesia, which hardens when mixed with water, used as an ingredient in concrete and also used to solidify liquid wastes, resulting in a homogeneous monolith.

Complexing Agent - see organic ligand

Contact-Handled (CH) TRU Waste - Packaged TRU wastes with an external surface dose rate of less than 200 mrem per hour.

**Defense Waste** - (1) Radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry. (2) Nuclear waste derived mostly from the manufacturer of nuclear weapons, weapons-related research programs, the operation of naval reactors, and the decontamination of nuclear weapons production facilities.

**Department of Energy Site** - A DOE-owned or -controlled tract used for DOE operations. Either a tract owned by DOE or a tract leased or otherwise made available to the federal government under terms that afford to DOE rights of access and control substantially equal to

those that DOE would possess if it were the holder of the fee (or pertinent interest therein) as agent of and on behalf of the government. One or more DOE operations/program activities are carried out within the boundaries of the described tract.

**Disposal** - Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste. For example, disposal of waste in a mined geologic repository occurs when all of the shafts to the repository area are backfilled and sealed.

**Disposal Inventory Volume** - The inventory volume defined for WIPP emplacement to be used for PA calculations is the "disposal inventory." The LWA defines the total amount of TRU waste allowed in the WIPP as 6,200,000 cubic feet (approximately 175,540 cubic meters) (Public Law 1996). The "Agreement for Consultation and Cooperation" (C&C Agreement) limits the RH-TRU inventory to 250,000 cubic feet (approximately 7,078 cubic meters) (DOE and State of New Mexico 1981). Therefore by difference, the CH-TRU inventory is limited to 5,950,000 cubic feet (approximately 168,460 cubic meters).

**Emplaced Inventory** - Waste that has been disposed at the WIPP as of the inventory date (September 30, 2002) for the purposes of this 2003 update report.

**Final Waste Form** - Consists of a series of Waste Matrix Codes that for PA purposes have similar physical and chemical properties.

**Final Form Waste** - Form of waste in packaging that will be shipped to WIPP.

**Foreign Key Value** - A field within a table that bares values that are derived from a primary key in a related table.

**Land Withdrawal Act** - The 1992 legislation passed by the U.S. Congress withdrawing the surface land and underlying minerals at the WIPP site from public use, transforming the property from the Bureau of Land Management to the DOE, and enabling the start of the WIPP Test Phase. This act was amended in 1996.

**Mixed TRU Waste** - TRU waste that contains both radioactive and hazardous components as defined by the Atomic Energy Act and the RCRA as codified in 40 CFR Parts 261.3 (EPA 1980). The test phase was removed by Public Law 104-201 – 1996 Land Withdrawal Act Amendments.

Newly Generated Wastes - See Projected Inventory.

**Non-WIPP** Waste Stream - A waste stream that is a future potential WIPP waste stream or a waste stream that is not being shipped to WIPP at the time of the update.

**Organic Ligands** - Organic molecules that are capable of binding to metals including but not limited to acetate, citrate, oxalate and ethylenediaminetetraacetic acid (EDTA).

**Oxyanion** - Negatively charged ionic species containing oxygen such as sulfate, nitrate, and phosphate.

**Payload Container Volume** - For the purpose of this document, the payload container volume is the volume that the final form package occupies at the time it is emplaced in the repository. Examples of payload container volume used in this context are ten drum over-packs with a volume of 4.87 m3 and RH canister over-packs of 3 55-gallon drums with a volume of 0.89 m3.

**Performance Assessment (PA)** - Performance assessment means an analysis that: (1) Identifies the processes and events that might affect the disposal system; (2) examines the effects of these processes and events on the performance of the disposal system; and (3) estimates the cumulative releases of radionuclides, considering the associated uncertainties, caused by all significant processes and events. These estimates shall be incorporated into an overall probability distribution of cumulative release to the extent practicable

**Performance Assessment Baseline Calculations (PABC)** - The Performance Assessment Baseline Calculation (PABC) is a PA run during the recertification that incorporates EPA requested changes. The results of this PA become the WIPP regulatory performance baseline that demonstrates compliance with EPA's radioactive waste containment requirements.

**Primary Key** - A field or combination of fields within a database table whose values uniquely identify a record within that table.

**Projected Inventory** - That part of the inventory that has not been generated but is estimated to be generated at some time in the future by the TRU waste generator/storage sites. The estimated timeframe may vary, but is usually between 20 and 30 years. "Newly generated waste" also is sometimes used as a synonym for the projected inventory.

**Pyrochemical Salt** - Salts used as a medium for high temperature oxidation/reduction reactions of metals and actinides. Examples of pyrochemical reactions include; Molten Salts Extraction (MSE), Electrorefining (ER), and Direct Oxide Reduction (DOR).

**Radioactive** - Term used to refer to an unstable atomic nucleus that decays with the spontaneous emission of ionizing radiation (also see "radionuclide").

**Radionuclide** - (1) A species of atom having an unstable nucleus, that is subject to spontaneous decay or disintegration and usually accompanied by the emission of ionizing radiation. (2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutron, and the energy content.

**Remote-Handled (RH) TRU Waste** - Packaged TRU wastes with an external surface dose rate equal to or exceeding 200 mrem per hour.

**Scaling** - The process for adjusting the inventory so that the stored projected and the emplaced inventory in WIPP applies to a full repository for PA modeling purposes.

**Shield Plug** - A plug consisting of concrete (cement), steel, and plastic used to emplace RH waste at the WIPP repository.

**Stored Inventory** - That part of the TRU waste inventory currently in retrievable storage as of the time of the last data call for inventory information. Retrievably stored waste includes waste stored in buildings or in berms with earthen cover since 1970 and does not include any waste that was buried prior to 1970. Stored inventory can be in the "as-generated" form or "final waste form." Retrievably stored waste also includes waste that is stored in underground storage tanks, ponds, and as decontamination and decommissioning material identified for disposal that requires retrieval at the sites.

Supersack - Woven plastic bags used to contain MgO used in backfill in the WIPP repository.

**Table Joins** - A defined relationship between tables in a relational database. TWBID, Revision 2.1 is a relational database.

**Transuranic** - Pertaining to elements that have atomic numbers greater than 92, including neptunium, plutonium, americium, and curium; all are radioactive, are not naturally occurring, and are members of the actinide group.

Transuranic (TRU) Waste - (1) Waste containing alpha-emitting radionuclide's with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations of TRU isotopes greater than 100 nanocuries per gram of waste. This core definition appears in modified form in various relevant documents as follows: (a) DOE M 435.1-1 defines transuranic waste: Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half lives greater than 20 years, except for; (1) High-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administration of the Environmental Protection Agency, does not need the degree of isolation required by 40 CFR Part 191 disposal regulations; (3) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.

Waste Acceptance Criteria (WAC) - The criteria used to determine if waste packages are acceptable. For the purposes of this document, WAC refers to WIPP WAC.

Waste Form - The physical form of the waste such as sludges, combustibles, metals, etc.

**WIPP Waste Stream** - A waste stream that is being shipped to WIPP or is being prepared for WIPP shipment.

**TRU Waste Sites** - The 5 major DOE facilities and several smaller sites throughout the U.S. that generate and store TRU waste.

Waste Isolation Pilot Plant (WIPP) - (1) The project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 1979) to demonstrate the safe and environmentally sound disposal of radioactive waste materials generated by atomic energy defense activities. (2) A research and development

facility located near Carlsbad, New Mexico to be used to demonstrate a practical, long-term solution to a complex problem: the safe disposal in deep geologic repositories of TRU waste resulting from DOE activities.

**Waste Material Parameter (WMP)** - A waste material that occurs in TRU waste that is an input parameter into one (or more) current PA model(s) or is required to adequately describe the waste form.

Waste Matrix Code (WMC) - The WMCs were developed by DOE in response to the Federal Facilities Compliance Act (FFCAct) (Public Law 1992b) as a methodology to aid in categorizing mixed waste streams in the DOE system into a series of five-digit alphanumeric codes (e.g., S3100; Inorganic Process Residues) that represent different physical/chemical matrices (DOE, 1995a). The waste matrix codes are detailed in the DOE Waste Treatability Group Guidance (DOE 1995c).

**Waste Stream** - Waste material generated from a single process or from an activity that is similar in material, physical form, and hazardous constituents.

**Waste Stream Profile** - A description of a CH-TRU or RH-TRU waste stream destined for shipment to and disposal in WIPP, if authorized under permits and certifications by appropriate regulatory agencies for disposal in the WIPP repository. The waste profile is presented in tabular format and is intended to provide a summary of the important information about a particular waste stream.

**WIPP Waste Profile** - Represents a summary of TRU waste at all DOE TRU waste generator/storage sites that have an identical Final Waste Form.