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Remote-Handled Transuranic Solid Waste Characterization Study: Oak Ridge National Laboratory

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ORNL/TM-11050

Environmental and Health Protection Division

REMOTE-HANDLED TRANSURANIC SOLID WASTE CHARACTERIZATION STUDY: OAK RIDGE NATIONAL LABORATORY

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ACRONYM LIST

ATTNO	attention number
CS	carbon steel
DOE	U.S. Department of Energy
DTWP	Defense Transuranic Waste Program
FFO	feet from zero
FFT	feet from top
FPDL	Fission Products Development Laboratory
HEPA	High Efficiency Particulate Absolute
HFIR	High Flux Isotope Reactor
HRLAF	High-Radiation Laboratory and Analytical Facility
HRLCDL	High-Radiation-Level Chemical Development Laboratory
HRLEL	High-Radiation-Level Examination Laboratory
M&C	Metals and Ceramics
NBNL	New Brunswick National Laboratory
ORNL	Oak Ridge National Laboratory
PC	personal computer
PHSE	Penthouse Area
PVC	polyvinylchloride
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
RPP	Radiochemical Processing Plant
SC	special-case
SNM	Special Nuclear Materials
SST	stainless steel
SWIMS	Solid Waste Information Management System
SWSA	Solid Waste Storage Area
TPP	Transuranium Processing Plant

TRU	transuranic
TURF	Thorium-Uranium Recycle Facility
WAC	Waste Acceptance Criteria
WHPP	Waste Handling and Packaging Plant
WIPP	Waste Isolation Pilot Plant
YAEC	Yankee Atomic Energy Commission

EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) Order 5820.2 defines DOE policy for managing transuranic (TRU) waste. To implement this order, DOE issued a defense waste management plan and a long-range master plan for the Defense Transuranic Waste Program (DTWP). These plans establish a goal of ending interim storage at DOE facilities and achieving permanent disposal of TRU waste at the Waste Isolation Pilot Plant (WIPP), a geological repository for TRU waste near Carlsbad, New Mexico. As a generator of 90% of the DOE remote-handled (RH) TRU waste, Oak Ridge National Laboratory (ORNL) has implemented a strategy to retrieve, process, and repackage TRU waste, currently stored on the ORNL reservation, for shipment to the WIPP. A component of this strategy is the proposed Waste Handling and Packaging Plant (WHPP). The purpose of WHPP is to process and repackage RH TRU and special-case (SC) TRU solid and sludge waste so that the final waste package will meet WIPP Waste Acceptance Criteria (WAC). The purpose of this RH TRU Solid Waste Characterization Report is to provide sufficient characterization information about ORNL's inventory of solid RH TRU waste to assist ORNL in planning for processing and disposal of this waste.

The waste characterization strategy consisted of several phases. First, primary RH TRU solid waste data were collected from the Solid Waste Information Management System (SWIMS) database maintained by ORNL Waste Operations. Next, each waste generator was visited to gather additional information regarding waste materials generated at the respective facilities. Then the data were reviewed extensively, and actual RH TRU waste volumes were estimated. Finally, the data were entered into a personal computer (PC) database structure known as the RH TRU Solid Waste Database.

The results of the Waste Characterization Study show that the currently identified inventory of RH TRU solid waste stored at ORNL facilities totals 477 waste containers, consisting mainly of casks. Based on data calculations and content assumptions, these 477 waste containers have over 8311 ft^3 of total waste materials with 6179 ft^3 considered retrievable. The waste material has been categorized into five types of waste: glass, metal, paper, plastic, and cloth. The breakdown of these types of retrievable waste is glass, 403 ft^3; metal, 2246 ft^3; paper, 464 ft^3; plastic, 2528 ft^3; and cloth, 539 ft^3. Also in the retrievable waste are 7044 metal cans, 6050 polyethylene buckets, and 110 pieces of equipment.

Inside the waste containers are smaller waste packages such as the previously mentioned paint cans and buckets along with drums and bags. The retrievable waste material, including the waste packages, will go to WHPP for processing and repackaging.

Fifteen facilities at ORNL have generated RH TRU solid waste, with the Transuranium Processing Plant (TPP) accounting for 70% of the waste. Retrievable RH TRU solid waste (369 containers) is stored in the northern part of the Solid Waste Storage Area (SWSA) 5 in either trenches, a bunker, or vaults. New trenches are no longer being developed for interim waste storage since the bunker came on line in late 1979.

The ORNL RH TRU Solid Waste Database (see Appendix E) is intended to maintain a current inventory of the RH TRU solid-waste containers stored on the ORNL reservation. The database will be updated as necessary to track newly generated RH TRU solid waste. The database and this document will support ORNL Engineering Division in its WHPP design efforts.

1. INTRODUCTION

The U.S. Department of Energy (DOE) order 5820.2 defines transuranic (TRU) waste as waste contaminated with transuranium, alpha-emitting radionuclides that have half-lives greater than 20 years and that are present in concentrations greater than 100 nCi/g. At Oak Ridge National Laboratory (ORNL) several facilities generate TRU waste. Since 1970, this waste has been stored in a retrievable manner on the Oak Ridge Reservation. However, the DOE master plan for TRU waste establishes a goal of ending interim storage and achieving permanent disposal of DOE TRU waste at the Waste Isolation Pilot Plant (WIPP), a geologic repository for TRU waste located about 2000 ft underground in a salt formation near Carlsbad, New Mexico.

ORNL's remote-handled (RH) TRU waste [waste with surface dose rates (of its container) greater than 200 mrem/h] will require processing before receiving certification for shipment to WIPP. In addition, special-case (SC) TRU (waste that requires special attention because of its structure, size, etc.) must be reprocessed. The Waste Handling and Packaging Plant (WHPP) became a major component of ORNL's and DOE's TRU waste strategy as a central processing facility for RH TRU and SC TRU waste for both ORNL and other DOE facilities. The mission for WHPP is to retrieve or receive, process, package, and certify RH TRU and SC TRU waste for shipment to WIPP. Waste shipped to the WIPP facility must meet the WIPP Waste Acceptance Criteria (WAC), as required by the DOE Radioactive Waste Management Program. The WIPP WAC defines the requirements for the waste container, waste packaging, waste form, and waste quantity in each package.

The objective of this solid waste characterization task is to accurately characterize RH TRU and SC TRU solid waste currently stored at ORNL to assist in planning the facility design for WHPP. Execution of the solid waste characterization task objective will satisfy the following two goals:

- Provide guidance to the ORNL Engineering Division to facilitate the preparation of the conceptual design for the WHPP facility and the selection and design of equipment for materials handling and processing. Both the specific types of waste materials (cloth wipes, contaminated hand tools, filters, processing racks, etc.) and the quantities of these materials present in each waste container must be determined.

- Provide the isotopic content and activity level of the RH TRU waste for use by ORNL in a study of alternative configurations for RH TRU shipping casks. This study would evaluate the trade-offs between payload and shielding for the proposed legal weight truck.

The completion of this task will also facilitate the process of ensuring that repackaged waste from the WHPP facility will meet the WIPP WAC.

2. STRATEGY

Characterization of the RH TRU and SC TRU solid waste at ORNL was accomplished through extensive data collection and interpretation. First, primary data were collected from ORNL Waste Operations. After the primary data were reviewed and studied, secondary data were collected from each waste generator. The data were then compiled into a RH TRU solid waste database.

2.1 PRIMARY DATA COLLECTION

The initial phase of the waste characterization strategy involved the collection of RH TRU and SC TRU solid waste data from two sources:

1. Solid Waste Information Management System (SWIMS) Database. The SWIMS database was created by ORNL Waste Operations to track the disposal of solid waste generated at ORNL. Information recorded in the SWIMS database for each waste container includes the waste generator, storage data, storage location, container type, and other parameters that further describe the waste container. To characterize the RH TRU stored at ORNL facilities, only a portion of this data (cases for which NUCLIDE = 6 and CONTAINER TYPE = 3, 4, 5, 6, 8, 9, 11, and 14) was retrieved from the master database. Both a printed form and a down-loaded personal computer (PC) form of this portion of data were obtained from ORNL Waste Operations.
2. UCN-2822 Burial Ground Forms. Each waste container delivered to the burial ground is accompanied by a UCN-2822 burial ground form that describes, in limited detail, the contents, activity level, and storage location of the container. These burial ground forms were collected for most of the entries in the SWIMS database. However, UCN-2822 forms have not been located for some of the entries in the SWIMS database. The data which were collected from these forms was then reviewed and grouped by generator in preparation for the second phase of the strategy.

2.2 SECONDARY DATA COLLECTION

The second phase of data collection involved individual meetings with each RH TRU waste generator at ORNL. Personnel from each of the primary generators of RH TRU solid waste [Transuranium Processing Plant (TPP), Thorium-Uranium Recycle Facility (TURF), and Radiochemical Processing Plant (RPP)] were invited to attend meetings to determine the types of waste materials that were generated at their facilities. Also, the small generators [High-Radiation-Level-Examination Laboratory (HRLEL), Isotopes Annex Laboratories, High-Radiation-Level Chemical Development Laboratory (HRLCDL), Metals and Ceramics (M&C) Laboratory, etc.] were visited individually to learn more about the types of waste that were generated at these facilities. Additional backup data, in the form of generator data sheets or operator log books, were obtained for each generator when possible.

2.3 DATA ENTRY

At the completion of both data collection phases, preparations were made to enter the data into a new RH TRU database structure, the ORNL RH TRU Solid Waste Database. The SWIMS database, which was down-loaded onto a PC, includes fields for document number (assigned by ORNL Waste Operations), attention number (ATTNO), storage date, generator, container type, retrievability (retrievable or buried), storage location, isotopes, curies, alpha radiation, and surface radiation. This format was used as the basic form for the new RH

TRU database with significant additions. Several fields were added to quantify waste volumes in cubic feet (metal, plastic, glass, cloth, and paper), and other fields were added to account for actual waste quantities (buckets, paint cans, filters, and equipment). Two fields were added at the end of the database to identify any Resource Conservation and Recovery Act (RCRA) materials and any suspect WIPP WAC violators. A column was also added to include general comments describing the contents of each waste container. (A complete description of the database structure and a definition of all fields are given in Appendix D.)

After this new RH TRU database structure had been created, volume calculation assumptions were formulated concerning the detailed contents of the waste containers. These data were then used in combination with primary and secondary data from each generator to estimate the contents of each waste container. The data were then entered into the database.

After the data-entry stage of the strategy was completed and the ORNL RH TRU Solid Waste Database was completed, individual data sheets were created for each retrievable waste container. These data sheets are to be compiled into a separate document, *Individual Waste Container Sheets for Retrievable RH TRU Solid Waste*. The data sheets contain information from the database as well as a detailed description of the physical contents of each waste container and an explanation of the assumptions that were used to estimate these physical contents. After the individual data sheets were created, preparations were made for the documentation stage of the strategy.

2.4 DOCUMENTATION

The final phase of the solid waste characterization task involved the verification of the RH TRU data and documentation of characterization activities. All calculations and assumptions were reviewed and reevaluated. The waste-volume estimates entered in the database for each waste container were checked for entry errors. The original SWIMS data (down-loaded from ORNL Waste Operations) were also checked for accuracy. At the completion of the verification subtask, the results of the waste characterization task, including background information, strategy, calculations, and a description of the database, were collected and compiled to create this document.

3. WASTE CONTAINERS AND PACKAGES

The RH TRU waste stored at ORNL is placed into various types of containers and packages. Typically, the waste is placed into small waste packages, and then these packages are put into a larger waste container. When these larger containers are sent to the burial site, they are given document numbers. Waste is managed and tracked according to this document number. Although the waste containers are documented and recorded, the actual detailed packages and content information are not well known. Therefore, certain assumptions were necessary concerning the content (both physical quantities and waste volumes) of each waste package.* This section of the document is intended to define the various waste containers, the waste packages, the volume calculations, and the content assumptions made during the waste characterization task.

3.1 WASTE CONTAINERS

Waste containers of varying size, shape, and construction have been used for the storage of RH TRU solid waste. The majority of the waste containers are concrete casks. The other types of waste containers are wooden boxes, U.S. Air Force (USAF) boxes, stainless steel (SST) tubes, and 55-gal drums. To characterize the waste packages within each container in detail, content assumptions were made including the volume of void space inside typical containers.

*Detailed data for stored waste packages to date are minimal, but newly generated waste (as of January 1988) is documented in greater detail to support the efforts of certifying waste according to WIPP WAC.

3.1.1 Concrete Cask

Three sizes of concrete casks were used by generator personnel for the disposal of RH TRU waste materials: those with 4.5-in.-thick walls, 6-in.-thick walls, and 12-in.-thick walls. The external dimensions of all three concrete casks (cylindrical) are approximately 7.5 ft high and 4.5 ft in diam. The internal volumes of the three concrete casks are 60 ft^3 for the 4.5-in.-thick- and 6-in.-thick-wall casks and 30 ft^3 for the 12-in.-thick-wall cask. The amount of waste assumed to be present in each cask was determined in the following manner. Waste volumes are based on the smallest package in each cask. If 5-gal lard cans (see Sect. 3.2.5) were used to package waste materials, it is assumed that 50% of the internal volume of the lard can is actual waste (and 50% is void space) and that no waste materials were packaged between the lard cans and the concrete cask. If 5-gal lard cans are packaged inside 55-gal waste drums (see Sect. 3.2.8) and then loaded into a concrete cask, then it is assumed that 50% of the internal volume of the lard can is actual waste (and 50% is void space) and that no waste materials were packaged between the lard can and the waste drum nor between the waste drum and the concrete cask. Casks containing waste packaged in double plastic bags (see Sect. 3.2.3) are assumed to contain 50% void space, resulting in 30 ft^3 of waste materials for both a 4.5-in.-thick-wall cask and a 6-in.-thick-wall cask, and 15 ft^3 for a 12-in.-thick-wall cask. Estimated waste volumes for each cask are specified on the Individual Waste Container Sheets. The concrete casks themselves (i.e., the volume of concrete used to construct a cask) were not included in the waste volume calculations. (See Appendix C for void calculations.)

3.1.2 Wooden Box

Wooden boxes were used by many of the smaller generators to discard unusually shaped waste materials (glove boxes, feed tanks, etc.) that could not be packed in waste drums or concrete casks. The dimensions of wooden boxes used for RH TRU waste disposal varied; however, members of ORNL Waste Operations estimate that 75% of all wooden boxes measure 4 × 4 × 6 ft and that the wood is 0.625 in. thick. Therefore, waste characterization for this report will be based on the assumption that each wooden box is this size, unless otherwise specified. To characterize the waste, wooden boxes will be considered SC TRU waste because of their size and construction. Each general box will contribute 6.5 ft^3 of wood (computed from the dimensions) to the overall waste volume. The amount of waste material in each wooden box varied, but in many cases sufficient secondary data exist to adequately characterize each waste container. However, because of the variety of waste materials packaged in wooden boxes and the variety of wooden boxes used to package these materials, general assumptions concerning the actual contents of each wooden box were not made. Additional assumptions for wooden-box waste containers can be found on the Individual Waste Container Sheets.

3.1.3 U.S. Air Force Box

USAF boxes were also used by operators of many of the smaller generators to discard waste that could not be placed in waste drums (see Sects. 3.2.6 and 3.2.8). A USAF box is basically a general wooden box (4 × 4 × 6 ft and 0.625 in. thick) inside an outer metal box (approximately 4 × 4 × 6 ft and 0.25 in. thick). The volume of waste in each box varies and is specified on the Individual Waste Container Sheets. To characterize the waste, USAF boxes will be considered SC TRU waste because of their size and construction. Each general box will contribute 6.5 ft^3 of wood and 2.7 ft^3 of metal (computed from the dimensions) to the overall waste volume.

3.1.4 Stainless Steel Container

SST tubes have been used as containers for waste packages in storage vaults (see Sect. 5.3). These tubes vary in diameter (from 8 to 16 in.) with an undetermined length. The SWIMS database suggests that the tubes contain 10 to 1000 g of actual reactor fuel. These containers, considered SC waste rather than RH TRU, are not currently planned to be processed through WHPP. The Individual Waste Container Sheets provide more information concerning each of these tubular containers.

3.1.5 Fifty-five-Gallon Drum

On two occasions, 55-gal waste drums have been used as the final waste container. The dimensions of a 55-gal waste drum are approximately 34 in. high, 24 in. in diam, and 0.125 in. thick. The drums are constructed of carbon steel (CS) or SST. To characterize the waste, it is assumed that 50% of the internal volume is void space; thus, the volume of waste contained in a 55-gal waste drum is 3.7 ft^3. The volume of metal in a 55-gal waste drum (computed from the dimensions) is 0.25 ft^3 of metal per drum, and this volume of metal is included in the waste-volume percentages for these waste containers.

3.2 WASTE PACKAGES

Within the waste containers, smaller waste packages such as paint cans, polyethylene buckets and bags, and metal drums were used. To characterize the waste in the waste packages, content assumptions were made involving the volume of void space and the volume of waste material in each waste package. Because of contamination, waste packages will be processed at WHPP as waste; thus, the material used to construct the waste packages was considered in waste-volume calculations. (See Appendix C for volume calculations.)

3.2.1 One-Gallon Paint Can

One-gallon paint cans have been used in conjunction with polyethylene buckets at the TPP for packaging waste materials. Several of the small generators also use paint cans to package materials. The paint cans are approximately 7.4 in. high and 6.5 in. in diam and are made of CS. To characterize the waste, it is assumed that there is no void space inside a paint can; thus, each paint can will contain 0.13 ft^3 of waste materials. It is assumed that the paint can, after being emptied, will be compacted to

a height of 1 in. at WHPP, resulting in a volume of 0.02 ft^3 of metal per paint can. This volume of metal is included in the waste-volume percentages for a general cell waste cask (see Sect. 4.1.1).

3.2.2 Polyethylene Bucket

The TPP has used polyethylene buckets in conjunction with paint cans to package waste. The approximate dimensions of a polyethylene bucket (roughly cylindrical) are 10 in. high and 11 in. in diam with an internal volume of 3.4 gal. With 50% void internal volume, a polyethylene bucket will contain 0.23 ft^3 of waste material. Therefore, the volume of plastic contributed by a polyethylene bucket, computed from the mass of a single bucket and the density of polyethylene, is 0.027 ft^3 of plastic per bucket. This volume of plastic is used in calculating the waste-volume percentages for a general cell waste cask (see Sect. 4.1.1).

3.2.3 Polyethylene Bag

In some cases, polyethylene bags have been used to contain waste. Occasionally, the various smaller waste packages such as paint cans, polyethylene buckets, Bain-Marie containers, and 5-gal lard cans are packaged within polyethylene bags. These bags are 36 in. deep and 24 in. in diam. Because the bags contain only a few packages per bag (i.e., the bags are not filled to their maximum volume), the low packing factor significantly contributes to the void space within waste containers.

3.2.4 Bain-Marie Container

Bain-Marie containers are small polyethylene containers (~2 gal internal volume) that were sometimes used in conjunction with polyethylene buckets to package high-activity waste materials that were discarded at the TPP. With 50% void internal volume, a Bain-Marie container holds 0.14 ft^3 of waste material. It is assumed that the volume of plastic contributed by a Bain-Marie container is 0.02 ft^3 of plastic per container. Because of the low occurrence of Bain-Marie containers, the volume of plastic is not included in the waste volume percentages for a general cell waste cask. However, when Bain-Marie containers are used to package waste materials, the increased volume of plastic will be reflected in the database. Additional assumptions regarding waste packaging in Bain-Marie buckets are presented in Sect. 4.1.1, which describes general waste casks from the TPP.

3.2.5 Five-Gallon Lard Can

Five-gallon lard cans have been used primarily at the TPP and the RPP to package waste materials. The dimensions of a 5-gal lard can are approximately 12 in. high and 11 in. in diam. To characterize the waste, it is assumed that 50% of the internal volume is void space; thus, the volume of waste contained in a 5-gal lard can is 0.33 ft^3. It is assumed that an empty 5-gal lard can will be compacted to a height of 1.5 in. at the WHPP, resulting in a volume of 0.08 ft^3 of metal per lard can. This volume of metal is used in calculating the waste-volume percentages for waste produced at the TPP and the RPP.

3.2.6 Thirty-Gallon Waste Drum

Thirty-gallon waste drums have been used primarily by the TURF to package waste material before placing the waste in concrete casks. Several smaller generators also used 30-gal waste drums to package waste materials. The dimensions of a 30-gal waste drum are about 30 in. high, 19 in. in diam, and 0.125 in. thick. These drums are constructed of CS or SST. To characterize the waste, it is assumed that 50% of the internal volume is void space; thus, the volume of waste contained in a 30-gal waste drum is 2 ft^3. Processing of 30-gal waste drums at WHPP will include size reduction. The volume of metal in a 30-gal waste drum (computed from the dimensions) is 0.17 ft^3 of metal per drum. Because the use of 30-gal waste drums is primarily associated with TURF, this volume of metal is used in calculating TURF's waste-volume percentages but not those of the smaller generators.

3.2.7 General Glove-Box Waste Package

Typical waste materials from many of the smaller generators include general glove-box waste packages. However, little secondary data exist to accurately characterize these waste packages. Thus, it

was necessary to make some general assumptions concerning the volume of material in a typical glove-box waste package. With a construction of primarily SST and glass (or Plexiglas®), a typical glove box is assumed to measure 6 × 3 × 3 ft unless otherwise specified. A typical glove-box package will contribute 3 ft^3 of metal and 0.1 ft^3 of glass. Plastic materials (gloves, plastic bags, etc.) comprise 1 ft^3 of waste, with paper materials contributing an additional 0.1 ft^3 of waste. These glove boxes are typically packaged in wooden boxes or USAF boxes, with several smaller glove-box packages being placed directly into concrete casks.

3.2.8 Fifty-five-Gallon Drum

Fifty-five-gallon drums have been used by several of the smaller generators to package waste materials before placing them in larger waste containers. The dimensions of a 55-gal waste drum are about 34 in. high, 24 in. in diam, and 0.125 in. thick. These drums are constructed of either CS or SST. To characterize the waste, it is assumed that 50% of the internal volume is void space; thus, the volume of waste contained in a 55-gal waste drum is 3.7 ft^3. The volume of metal in a 55-gal waste drum (computed from the dimensions) is 0.25 ft^3 of metal per drum, and this volume of metal is included in the waste-volume percentages for these waste packages.

3.2.9 Ten-Gallon Fiber Drum

Ten-gallon fiber drums have been used by TPP personnel to package miscellaneous waste such as shoe covers, gloves, etc. The drums are about 19 in. high, 13 in. in diam, and 0.0625 in. thick. The lids for a fiber drum have a 6-in. lip, which overlaps the drum (see Fig. 4 in Sect. 4). To characterize the waste, these drums are considered to be paper, but are actually rigid cardboard. Since 50% of the internal volume for each drum is considered void space, the volume of waste material in a fiber drum is 0.73 ft^3. Also, each drum contributes 0.230 ft^3 of paper to the waste volumes.

4. WASTE GENERATORS

Over the past 20 years, the 15 facilities of ORNL's hot-cell operations have produced RH TRU solid waste. The major generator has been the TPP, which is currently the only facility producing RH TRU waste. Additional facilities such as the TURF, the RPP, and other smaller generators have also contributed to the ORNL RH TRU solid waste inventory.* Because of the many different generators, the contents and packaging techniques within the waste containers have varied. This section presents a description of the types of waste generated and the techniques of waste packaging used at each facility.

4.1 TRANSURANIUM PROCESSING PLANT, BLDG. 7920

The TPP facility, which is the production, storage, and distribution center for the heavy-element research program of DOE, is the single largest generator of RH TRU waste, accounting for about 70% of the total RH TRU waste generated since 1970. Because of the high quantity of waste containers and lack of waste documentation, determination of the specific contents of each waste container was difficult. However, TPP personnel have verified that only concrete casks lined with polyvinylchloride (PVC) plastic bags (8 mil thick) were used as waste containers; thus, the primary data from TPP were reviewed to develop general cask cases. TPP personnel also ensure that liquids are drained from any sample bottles before the bottles are discarded. Nevertheless, small quantities of liquids may be found in sample bottles. Extensive analysis of the primary data revealed four basic types of casks: general cell waste, floor cell waste, processing rack waste, and Iodine Retention System waste.

*Table 5 of Sect. 6 provides a breakdown of the waste containers per generator.

4.1.1 General Cell Waste Cask

General cell waste is produced from in-cell processing work conducted on irradiated targets. These waste materials include manipulator boots, miscellaneous glassware, polyethylene sample bottles, cloth wipes, and small tools, among others. An extensive review of both the primary and secondary data from the TPP facility has produced the following percentage estimate of waste materials in a general cell waste cask:

Plastic: 54% (manipulator boots, plastic bottles, polyethylene buckets, etc.)

Metal: 23% (small tools, manipulator boot rings, SST tubing, paint cans, etc.)

Glass: 13% (miscellaneous glassware, light bulbs, filter housings, etc.)

Cloth: 10% (Chem wipes, sanitary napkins, etc.)

Several different waste-packaging methods were used by TPP personnel to package general cell waste. The most common method of waste packaging used 1-gal paint cans overpacked in polyethylene buckets. First, waste materials were placed into a 1-gal paint can (Fig. 1). Then, to provide containment, the paint can was next packaged in a

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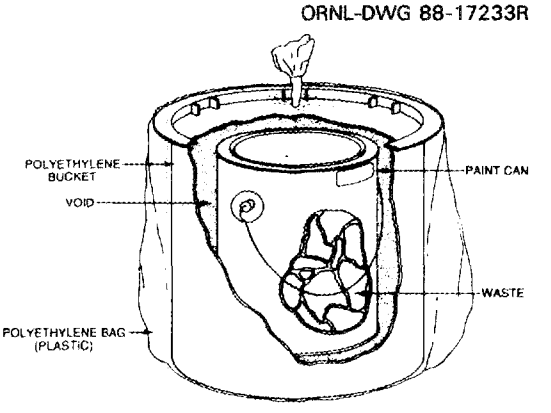

Fig. 1. Typical waste package for TPP general cell waste cask.

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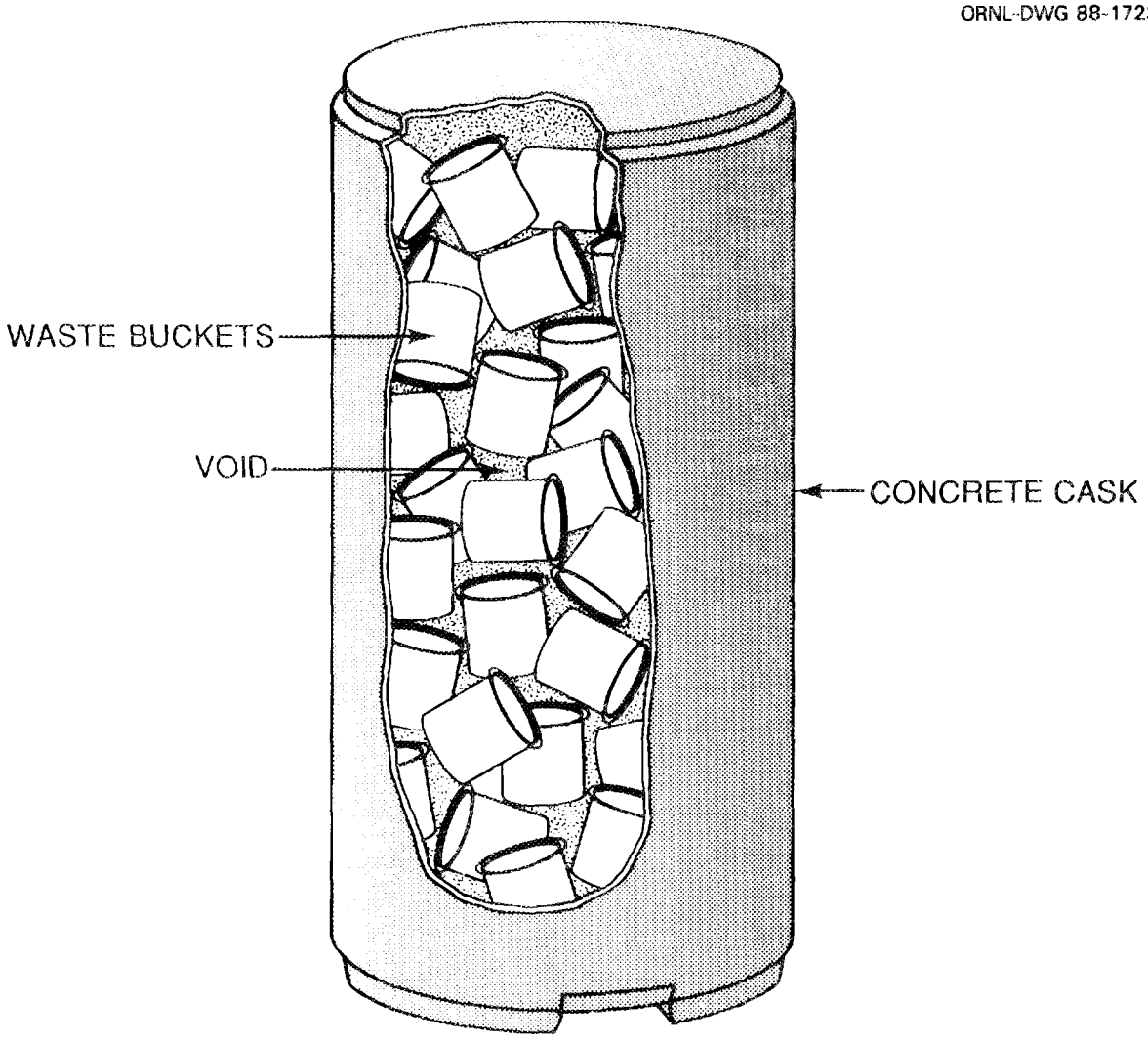

Fig. 2. Concrete-cask container with waste buckets.

polyethylene bucket that was then heat-sealed. Finally, this entire package was placed into a polyethylene bag for contamination control during handling before it was loaded into a concrete cask. However, larger materials were placed directly into the polyethylene buckets. It is assumed that a general waste cask (4.5-in.-thick-wall or 6-in.-thick-wall) of this type contains 63 polyethylene buckets (see Fig. 2). It is also assumed that 50% of these polyethylene buckets contain additional waste materials packed between the paint can and the polyethylene bucket. Including the volume of plastic in the polyethylene buckets and the volume of metal in the paint cans, the total volume of waste materials in a general cask is 15.6 ft^3.* For 12-in.-thick-wall casks with no secondary data, it is assumed that 21

*Many of the logbook records (secondary data) specify the actual number of polyethylene buckets contained in the cask. When the number of buckets is between 62 and 64, the total volume of waste is assumed to be the same as the general case because this small change cannot be accurately represented in the RH TRU Solid Waste Database. However, when the number of polyethylene buckets is outside this range, the database will reflect volume changes according to grouped variations of three buckets (i.e., 56–58, 59–61, 65–67, etc.).

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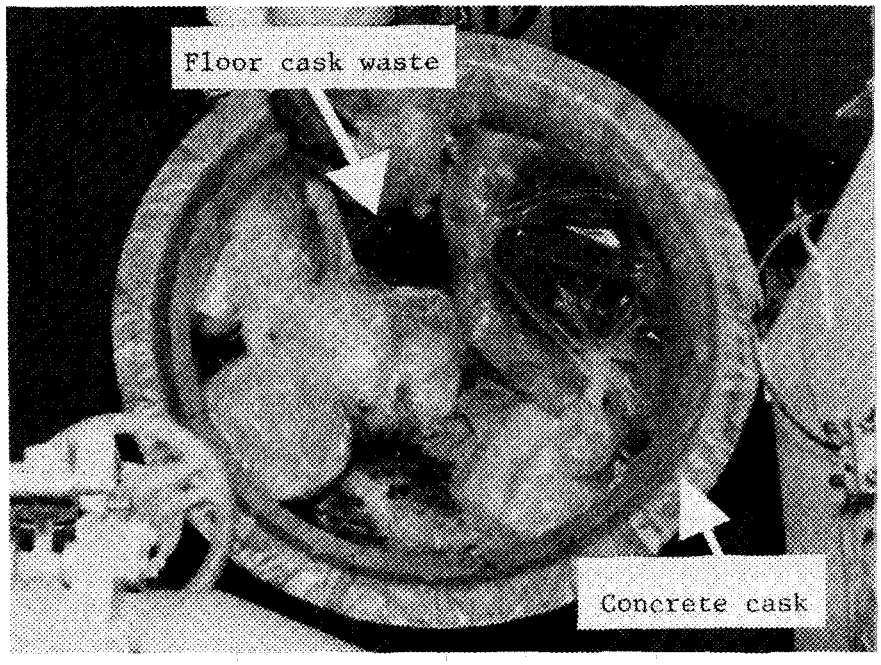

Fig. 3. TPP floor-cask example.

polyethylene buckets, or 5.2 ft^3 of general waste, will fit into the cask.

Larger materials that could not be packaged in paint cans were placed in large plastic drawstring bags and removed through the roof of the TPP processing hot cells. A top view of a floor cask is shown in Fig. 3. It is assumed that seven drawstring bags will fit into a 6-in.-thick-wall cask and two or three bags will fit into a 12-in.-thick-wall cask. Drawstring bags were not used with 4.5-in.-thick-wall casks. Secondary data have been recorded describing the contents of "bag" casks; thus, no general assumptions were made concerning their contents. TPP personnel have confirmed also that no casks contain both drawstring bags and polyethylene buckets.

Additional conclusions regarding general cell-waste casks from the TPP facility are listed as follows:

- When the UCN-2822 form for a particular cask is accompanied with backup data, the "bucket" numbers on the form refer to numbers placed directly on paint cans. Polyethylene buckets were not assigned numbers.

- Until 1982, a plastic manipulator boot was typically packaged in three paint cans that were then placed into a polyethylene bucket. After 1982, the whole boot was often placed directly into a single polyethylene bucket. Yet, some boots were packaged in paint cans contained by plastic drawstring bags. Generally, five manipulator boots were discarded per cask.

- Bain-Marie containers, snap-lid plastic buckets, have been used several times since 1979 to discard special activity waste materials. The waste materials were first packaged in paint cans, then loaded into Bain-Marie containers, and finally loaded into regular polyethylene buckets. Also, Bain-Marie containers have been used to provide extra containment for certain types of waste materials. These occurrences are specified on the Individual Waste Container Sheets.

- Approximately 7–8% of the paint cans that came from the TPP facility were lined with 0.125-in.-thick lead for additional shielding. These cans are specified on the Individual Waste Container Sheets.

4.1.2 Floor Cell Waste Cask

Floor casks are used at the TPP facility to dispose of lower-activity waste and miscellaneous trash generated during cask-loading and general decontamination operations. Typical waste materials include radiation protection clothing, plastic bags, rubber gloves, shoe covers, blotter paper, wooden decontamination tents, miscellaneous tools, and other equipment. (Figure 3 illustrates the random packaging and the types of waste in a floor cask.) An extensive review of both the primary and secondary data from the TPP facility has produced the following percentage estimate of the waste materials in a floor cask:

Plastic: 50% (polyethylene buckets, plastic bags, shoe covers, gloves, polyethylene tubing, etc.)

Metal: 15% (0.5 and 0.75 in. SST jumper lines, miscellaneous tools and equipment, etc.)

Paper: 15% (mostly blotter paper and miscellaneous waste)

Cloth: 10% (radiation protection clothing, cloth wipes, etc.)

Glass: 5% (glass bottles, light bulbs, etc.)

Wood: 5% (decontamination tent structures, miscellaneous wood)

Three different waste-packaging methods have been used by TPP personnel to package general floor-cask waste. Before 1977, one method was to package waste in double polyethylene bags and then to randomly load these bags into the cask. Another common technique, especially in the early 1970s, involved the use of 10-gal fiber drums. These drums, which were lined with a polyethylene bag (see Fig. 4), were used as waste cans in the cell operations area for materials such as gloves and shoe covers. In most cases, because the drums were stacked in an orderly manner, 24 fiber drums would fit into a concrete cask (see Fig. 5); however, fiber drums and polyethylene bags were occasionally placed randomly into a cask (see Fig. 6). Also, some floor-cask waste was packaged in 5-gal lard cans. In general, the method of packaging floor-cask waste is specified on the UCN-2822 forms or log books for each waste container. However, when the method of waste packaging for floor-cask waste is not specified on the UCN-2822 form, it is assumed that double plastic bags were used to package the waste materials (see Fig. 7).

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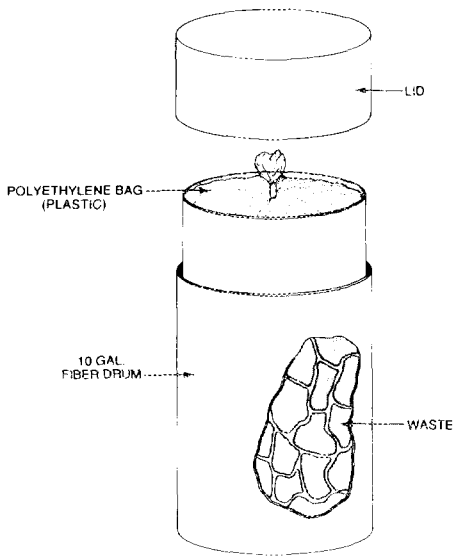

Fig. 4. A waste package for a floor cask.

Until the middle 1970s, floor casks were primarily 4.5-in.-thick-wall casks. During the middle 1970s, both 4.5-in.-thick-wall and 6-in.-thick-wall casks were used for floor-cask waste disposal; however, only 6-in.-thick-wall casks are currently being used. [Thick-wall (12 in.) concrete casks have never been used for the disposal of floor-cask waste.] With regard to waste volumes within a floor cask, it is assumed that 50% of the internal volume of a general floor cask (the waste is packaged in double plastic bags) is void space; thus, each floor cask contains approximately 30 ft^3 of waste. When fiber drums or 5-gal lard cans were used to package waste materials, no additional waste materials are assumed to be placed between the packages and the concrete cask containers. With 50% void space for either method, casks with lard-can packaging and fiber-drum packaging contain approximately 22 ft^3 of waste materials. Some other general assumptions concerning floor casks are presented below:

- For a period during the 1970s, casks from TPP were labeled "BURNABLE" or "NON-BURNABLE." Although some floor casks were

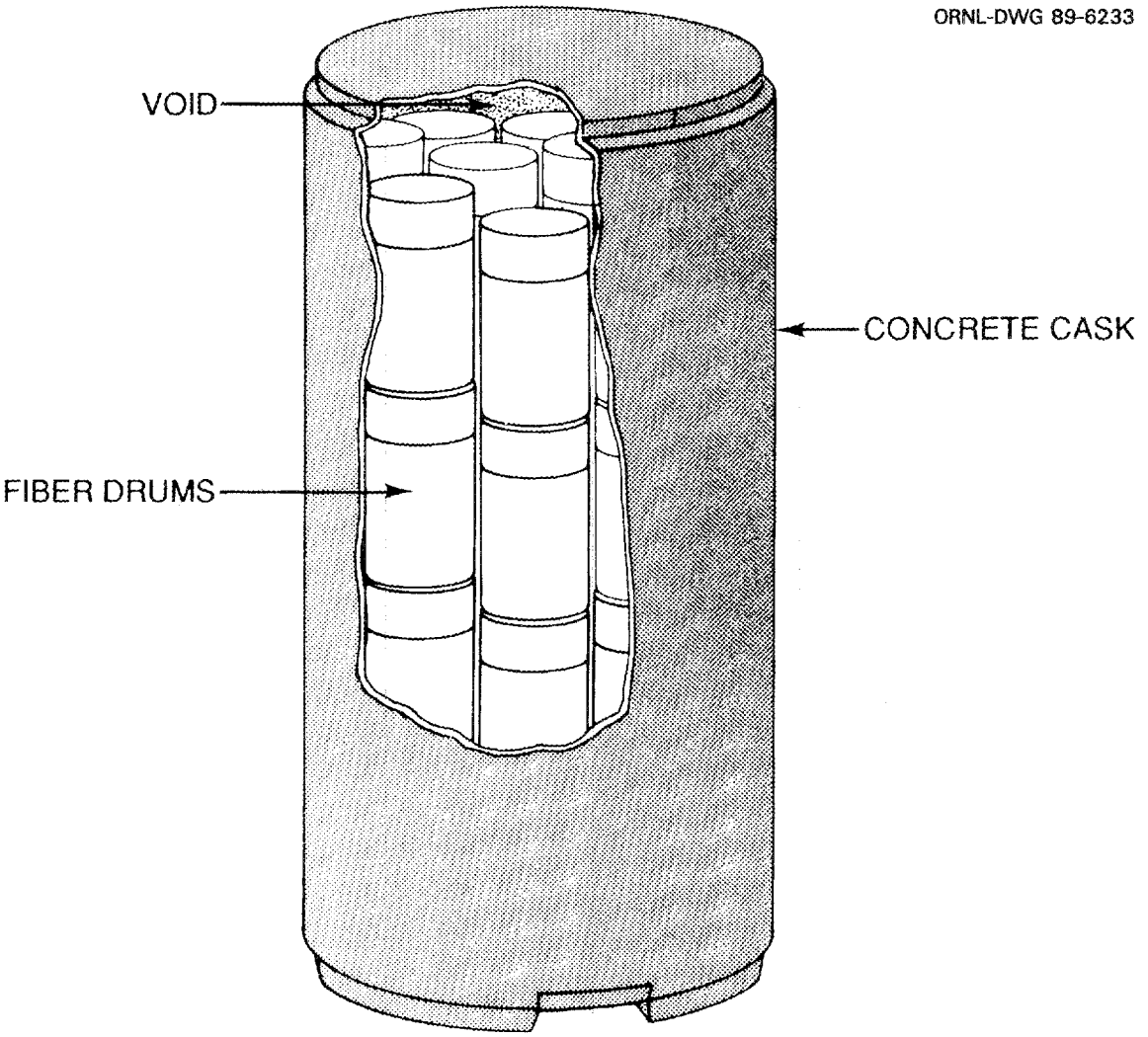

Fig. 5. Concrete-cask container with fiber drums.

labeled "NON-BURNABLE," floor casks were typically designated "BURNABLE" by TPP personnel regardless of cask size. Thus, any cask that is designated "BURNABLE" is assumed to be a floor cask, unless secondary data suggest otherwise.

- It is assumed that each floor cask will contain two paint cans of miscellaneous waste from the TPP analytical laboratories. The composition of this waste is primarily glassware and is included in the composition of waste-volume percentages.
- Differentiation between general cell-waste casks and floor casks was difficult in some cases because of conflicting primary and secondary data. To determine whether a waste container contained general cell waste or floor-cask waste, a few facts concerning floor casks were thoroughly reviewed:
  - It is assumed that general cell waste will reflect higher radiation readings at the time of disposal than floor-cask waste. Thus, when discrepancies arose between primary and secondary data for a particular waste container, the radiation readings reported for that waste package were used to aid in the determination of the type of waste in a waste container.
  - TPP personnel issued a document in April 1980 summarizing the RH TRU waste

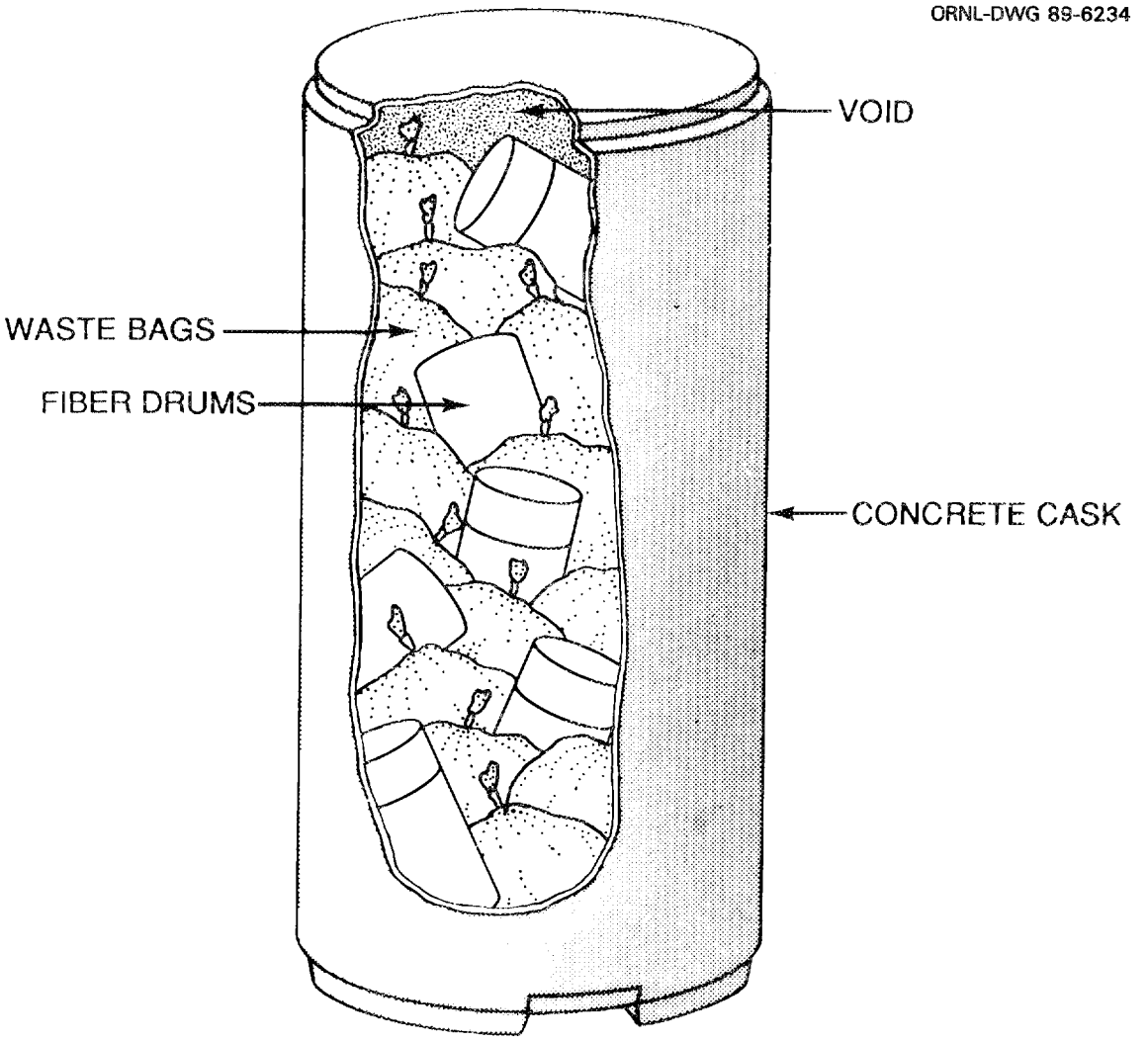

Fig. 6. Concrete-cask container with waste bags and fiber drums.

containers that were sent to the burial grounds from the TPP. To characterize waste for the study, the report issued by TPP personnel was updated. When discrepancies arose between primary and secondary data, this report was used as a cross-reference to verify the primary and secondary data.

4.1.3 Processing-Rack Waste Cask

Purification of californium to produce neutron sources and purification of berkilium, einsteinium, and fermium for research purposes is achieved through the use of various processing racks that are located in the process hot cells. Because of malfunctions and wear, the need arose to replace these processing racks. Subsequently, the racks were removed and packaged as RH TRU waste in 6-in.-thick-wall casks.

Processing racks from TPP measure 2 × 3 × 6 ft and are constructed primarily of SST. Polyethylene and glass components are also located on the racks; as a result, plastic and glass comprise a part of the rack composition. An extensive review of both the primary and secondary data from the TPP facility has produced the following percentage

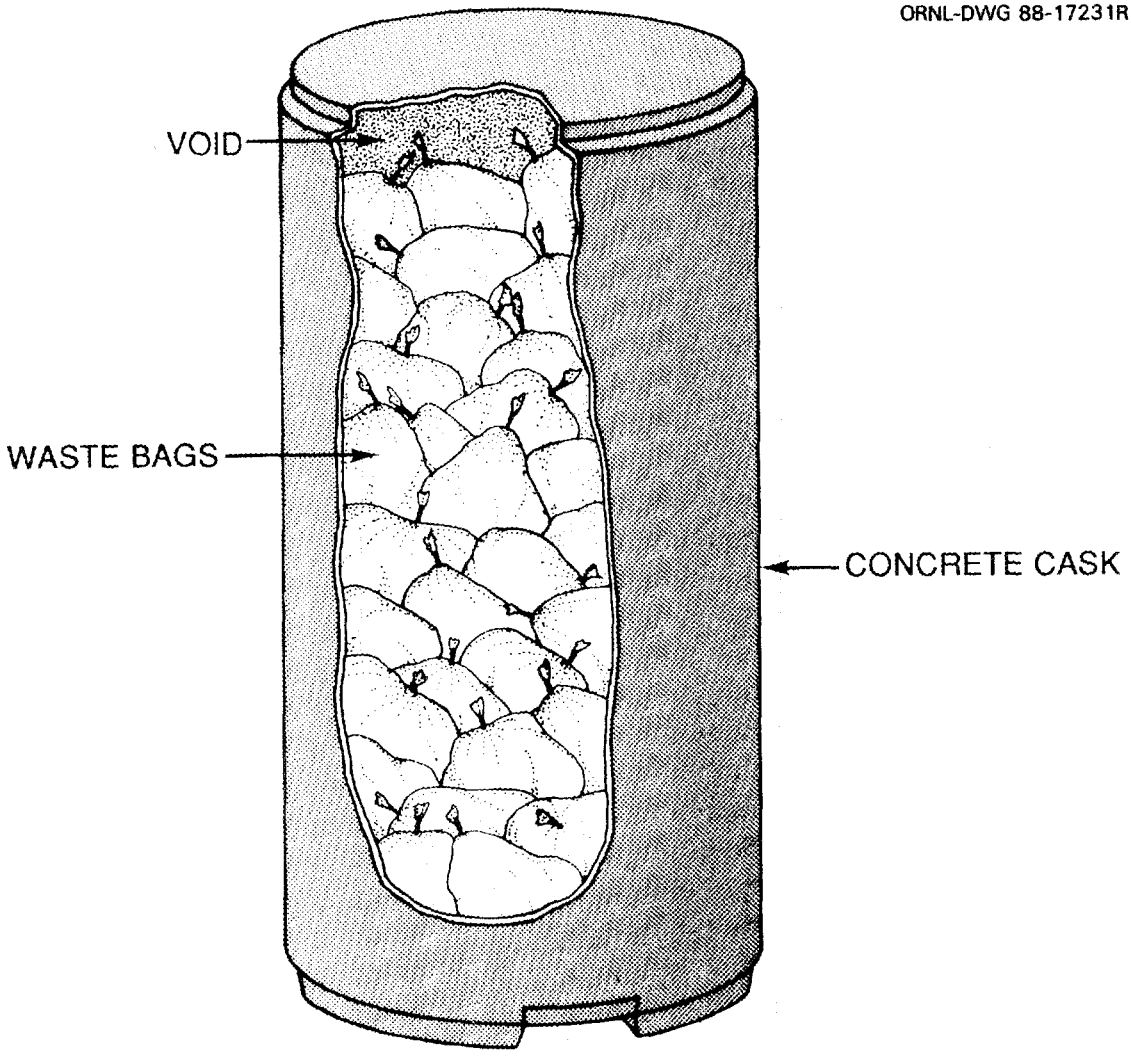

Fig. 7. Concrete container with waste bags.

estimate of the waste materials in a processing-rack cask:

Metal: 90% (SST racks, miscellaneous small tools, lead counter weights, etc.)

Plastic: 5% (plastic bags, polyethylene in rack composition, etc.)

Glass: 3% (glass in rack composition, miscellaneous glass, etc.)

Paper: 1% (possible blotter paper used to remove rack from cell)

Cloth: 1% (possible cloth wipes, miscellaneous cloth, etc.)

It is assumed that the total volume of waste in a processing rack cask is 15 ft^3. TPP personnel have confirmed that, in most cases, lead bricks were used to balance the processing racks and will be found in most processing-rack casks.

Typical packaging of processing racks includes several layers of polyethylene bags and ultimate disposal in a concrete cask. Miscellaneous waste (about one bag per cask) was often packed around the rack to increase waste disposal per cask and is

assumed to be present in each processing-rack cask. Additional assumptions upgrading the specific contents of each processing-rack cask can be found on the Individual Waste Container Sheets.

4.1.4 Iodine Retention System Waste Cask

The Iodine Retention Systems consist of three Hopcalite® reaction beds (catalyst beds which measure 6 × 24 × 24 in.) and two charcoal reaction beds (which measure 24 × 24 × 24 in.) plus other miscellaneous materials that are used to filter process off-gases from the californium- and curium-processing racks. When the reaction beds (filters) become depleted, they are placed in the floor cask in current operation. Subsequently, for more accurate characterization of waste volumes, floor casks containing depleted reaction beds are identified as Iodine Retention System casks. Extensive review of both the primary and secondary data from the TPP facility has produced the following percentage estimate of the waste materials in an Iodine Retention System cask:

Metal: 43% (Hopcalite filters, charcoal filters, miscellaneous metal, etc.)

Plastic: 30% (polyethylene buckets, polyethylene bags, shoe covers, gloves, polyethylene tubing, etc.)

Paper: 12% (mostly blotter paper and miscellaneous waste)

Cloth: 12% (radiation protection clothing, cloth wipes, etc.)

Glass: 3% (glass bottles, light bulbs, etc.)

Because the Iodine Retention System beds are placed in floor casks, the volume of waste has been assumed to be 30 ft^3. All waste materials (besides the reaction beds) are similar to those in a typical floor cask, but because of the presence of the reaction beds, the waste-volume percentages are slightly different. To characterize this waste, the entire reaction bed structure has been considered metal in the waste-volume percentages.

4.2 SMALL GENERATORS

A variety of generators are responsible for the remaining 30% of the RH TRU waste currently stored at ORNL facilities. This section of the document is intended to give a brief description of the types of waste materials that are generated at these smaller facilities. Because the quantities and types of waste materials vary among the smaller generators, general assumptions concerning these waste materials were not made.

4.2.1 Thorium-Uranium Recycle Facility, Bldg. 7930

The TURF staff conduct laboratory-scale experiments for TPP dealing with the separation of californium isotopes (primarily ^{252}Cf) from impurities. Therefore, the types of waste materials generated at TURF are very similar to those of TPP, but the quantities of waste materials generated are much less. After an extensive review of both the primary and secondary data, TURF has produced the following estimate of the breakdown of waste materials in a general cask:

Plastic: 60% (manipulator boots, sample bottles, miscellaneous plastic, etc.)

Metal: 33% (furnaces, miscellaneous pots, pumps, temperature control baths, metal waste drums, etc.)

Cloth: 4% (cloth wipes, sanitary napkins, etc.)

Paper: 2% (blotter paper, miscellaneous trash, etc.)

Glass: 1% (quartz light bulbs, sample bottles, Pyrex® filter, etc.)

Waste materials from the TURF were packaged in 30-gal CS waste drums before being loaded into concrete casks. Typically, two waste drums are loaded into each cask; however, on one occasion a cask was loaded with one waste drum and one plastic bag. It is assumed that 50% of the internal volume of a 30-gal waste drum is void space, resulting in 4.4 ft^3 of waste materials per cask. (This volume is also assumed for the drum/bag case.)

Two processing racks similar to those from TPP have been discarded since the early 1970s. These racks (2 × 3 × 5 ft) are constructed primarily of SST, glass, and polyethylene. To characterize this waste, the same waste-volume quantities used for TPP processing racks (Sect. 4.1.3) will be used for TURF processing racks, with the exception that there is more paper waste (about 0.4 ft^3) in the

TURF processing-rack casks. Several assumptions regarding general waste materials from the TURF are presented below:

- Various pieces of small equipment have been discarded at the TURF facility since the early 1970s. Specific instances for the disposal of this equipment were not noted on any primary or secondary data; thus, the disposal of such equipment is assumed to be distributed evenly over the course of the disposal history at TURF. Descriptions and quantities of the equipment which was discarded are as follows:
  - Between 1970 and 1976, many small pumps (4 × 4 × 2 in.) were discarded at the TURF. After 1976, new instrument racks were installed with different pumping systems. About 15 to 25 pumps have been discarded and are concentrated during this time frame.
  - About six small furnaces (10 × 10 × 10 in.) have been discarded since 1970.
  - About six to eight temperature-control baths (12 × 12 × 8 in.) have been thrown away. These devices contain small quantities of mercury.
- Each temperature-control bath (described previously) used in the TURF process hot cells contains about 1 mL of mercury. Also, additional mercury might be present in a cask as a result of a discarded thermometer. However, the total quantity of mercury contributed to the waste volume by the control baths and thermometers should not exceed 10 mL. Generally lead is not used in the process cells; therefore, its presence is not expected in the waste materials. However, trace amounts of lead may be found in the waste casks.
- TURF personnel ensure that liquid materials are drained from any sample bottles before they are discarded. However, small quantities of liquid may be found in sample bottles. Also, TURF personnel ensure that waste casks do not contain any hazardous waste, high-activity waste, asbestos, pyrophorics, resin, or similar materials.

4.2.2 Radiochemical Processing Plant, Bldg. 3019

The RPP is a uranium-plutonium-processing facility whose original responsibility was to separate plutonium generated at the Graphite Reactor from the spent reactor fuel. A variety of analytical operations also occur within the RPP. There are three primary generators of RH TRU waste within RPP: the High-Radiation Laboratory and Analytical Facility (HRLAF), the Penthouse Area (PHSE), and the Ventilation/Off-Gas Filter Change Operations.

4.2.2.1 High-Radiation Laboratory and Analytical Facility

The HRLAF, the forerunner of the TPP, carried out isotope separation and purification work similar to that of the TPP. However, the type of waste materials generated at the HRLAF differ significantly from those of the TPP. The following estimate of the breakdown of waste materials is based on information solicited from RPP personnel:

Plastic:	55% (sample bottles, manipulator boots, shoe covers, rubber gloves, rubber tubing, etc.)
Metal:	30% (small tools, metal lard cans, etc.)
Paper:	10% (cardboard, ice cream cartons, blotter paper, etc.)
Glass:	4% (miscellaneous materials)
Cloth:	1% (small wipes and miscellaneous materials)

All waste materials from the HRLAF were packaged in 5-gal lard cans. On the average, 10 to 15 lard cans would fit in a cask. To characterize this waste, it is assumed that 14 cans are in each cask from the HRLAF and that the lard cans contain 50% void space. Thus, including the volume of metal in the 5-gal lard cans, the total volume of waste materials in a cask is 5.8 ft^3.

Other miscellaneous waste materials that can be expected in casks from RPP include carbon-graphite electrodes (about one lard can per cask) and lead pigs (about 30 per cask). One concrete cask contains a High Efficiency Particulate Air (HEPA) filter sealed in 0.5-in. lead sheet. Additional assumptions and descriptions of RPP waste materials can be found on the Individual Waste Container Sheets.

4.2.2.2 Penthouse Area

Three waste packages were generated in the PHSE of the RPP as a result of actual uranium and

plutonium processing. These materials included ion-exchange columns, ion-exchange resin and related materials, a vacuum pumping system, and miscellaneous waste from a dissolver. More detailed information concerning each of these waste containers is given on the Individual Waste Container Sheets.

4.2.2.3 Ventilation/Off-Gas Operations

Several waste packages were generated as the result of filter changes on the RPP Ventilation/Off-Gas System. Typical waste materials from these standard-procedure filter-change operations are fairly well defined both by documentation and by corroboration from RPP personnel. Each cask used to store waste materials directly associated with filter changes actually contains all the waste generated from two filter-change operations. Typically, three operators would dress out to perform this work. The waste materials include four to five HEPA filters (24 × 24 × 12 in.) per cask, and this number is generally reported on the UCN-2822 form. To characterize this waste, the whole filter volume (4 ft^3) is considered to be metal. Because three operators would perform the work on each filter-change operation, six pairs of coveralls, six to eight pairs of shoe covers, and six to eight pairs of rubber gloves can be found in each cask. Small quantities of blotter paper, masking tape, and other materials used in normal filter-change operations can also be found in these waste containers.

4.2.3 Chemical Technology Alpha Laboratory, Bldg. 3508

Waste materials generated at this facility were the result of extensive decontamination efforts. The majority of the waste containers include various-sized glove boxes contaminated with americium and plutonium, but several parts of a vacuum system were also discarded. In most cases, all stray materials were removed from the glove box before disposal. It is assumed that the glove boxes that were discarded from this facility are general glove boxes (Sect. 3.2.7) unless the secondary data suggest otherwise. Individual content assumptions are summarized on the Individual Waste Container Sheets.

Typical waste packaging of a glove box from this facility involved several steps. The front window and glove ports were covered with 0.75-in. plywood, and, in some cases, this plywood was then covered with metal. The glove boxes were then sealed in one or two layers of plastic before being placed in a typical wooden box (0.75 in. thickness). The boxes were then sealed in one or two layers of additional plastic before being placed in a metal box (the outer portion of a USAF box, Sect. 3.1.3). The USAF box was then bolted and welded shut. Minute quantities of lead may be found in each waste container.

4.2.4 High-Radiation-Level Chemical Development Laboratory, Bldg. 4507

Waste materials from this facility were generated as the result of extensive decontamination of curium-separation facilities. The majority of the waste materials are general glove boxes [assume general waste volumes (see Sect. 3.2.7)] that were used for chemical processing; however, several special materials were also discarded. The equipment used in the curium separation operations included several equipment racks (mixer-settler rack, heat-exchanger rack, sphere-forming rack, feed-tank rack), feed tanks, and miscellaneous waste. Each rack is approximately 2 × 3 × 6 ft and is constructed primarily of tantalum or SST. To characterize this waste, the same waste quantities used for a TPP processing rack (Sect. 4.1.3) will be used for processing racks from this facility. The feed tanks (T-403, T-402, etc.) are various sizes and generally lined with glass, tantalum, or polyethylene. Miscellaneous waste, including SST tubing, small hand tools, manipulator boots, wipes, small quantities of glass, and other materials, was also discarded from this facility. Chemical Technology Division personnel state that a significant quantity of lead (glove-box shielding, lead pigs, etc.) can be expected; however, specific volumes could not be estimated.

The majority of the waste-processing equipment from this facility was packaged in USAF boxes, with miscellaneous waste packaged around the equipment. Other miscellaneous waste was generally packaged in 55-gal CS waste drums or wooden crates (4 × 4 × 6 ft and 1 in. thick). The actual packaging method used on each waste container, generally specified on the UCN-2822 form for that waste container, is described on the Individual Waste Container Sheets.

4.2.5 High-Radiation-Level Examination Laboratory, Bldg. 3525

The HRLEL, which is responsible for ten RH TRU waste containers, is a facility at ORNL that

performs experimental work on irradiated reactor fuel rods. Only three of these containers can be matched with corresponding UCN-2822 forms, and additional data were unavailable from the generator. Typical waste materials for those three waste packages include small in-cell equipment, tools, old saws, cleanup materials (wipes, blotter paper, etc.), and filters. The other seven waste containers are primarily uranium- and plutonium-contaminated waste and have a Special Nuclear Materials (SNM) number. Information from the SWIMS database suggests that these waste containers are 6-in.-diam SST containers containing 10 to 1000 g of actual reactor fuel. Additional information for these waste containers can be found on the Individual Waste Container Sheets.

4.2.6 Isotope Production Area, Bldgs. 3033 and 3038

The Isotope Production Area is responsible for eight RH TRU waste containers generated as a result of isotope production. Typical waste materials from this area include californium-evaporation-system glove boxes and other miscellaneous waste that are described below:

- Californium-evaporation-system glove boxes measure 3 × 4 × 4 ft, are constructed of SST, and have 2 in.-thick Plexiglas® windows. Waste-volume quantities for these glove boxes are based on the general glove box quantities specified in the section on general assumptions. The evaporation system consists of a vacuum pump (~3 ft^3, considered to be metal), a glass bell-jar, numerous SST valves, and an aluminum collar around the feed line. Isotopes personnel ensure that the vacuum pump is not included in the waste container, unless otherwise specified on the UCN-2822 form. No lead or mercury is expected inside the glove boxes, but it is unlikely that oil was drained from any pumps that may be present. These glove boxes were packaged in wooden boxes or USAF boxes.

- Miscellaneous waste materials include cloth wipes, ring stands, various pieces of glassware, small hot plates, stirring motors, metal trays, SST tubes, and other materials. Several vacuum pumps may also be included in the miscellaneous waste. All materials were packaged in 5-gal lard cans that were then heat-sealed in plastic. The sealed lard cans were then packed into 55-gal waste drums (six cans per drum), and the drums were loaded into concrete casks (two drums per cask). Only the interior of the lard cans is considered for the waste volume. To characterize this waste, it is assumed that 50% of this interior volume is void space resulting in 4 ft^3 of waste materials (including metal from lard cans and waste drums). Based on the types of waste generated at this facility, the following estimates for waste-volume percentage were used for miscellaneous waste casks from this facility: 70% metal, 15% cloth, and 15% glass. Also, minute quantities of plastic (0.1 ft^3) are assumed to be present in these waste containers.

4.2.7 Radioisotope Production Laboratory A, Bldg. 3028

The Radioisotope Production Laboratory A is responsible for seven RH TRU waste containers that consist primarily of curium and californium glove boxes. A typical glove box is approximately 3 × 4 × 5 ft and constructed of metal and glass. Curium glove boxes each have four glove holes and a large opening on the side to introduce samples into the box, all of which were sealed with 0.5-in. plywood before disposal. Californium glove boxes contain an evaporation system similar to the glove boxes from the Isotope Production Area. Waste-volume quantities for these glove boxes are based on the general glove-box quantities specified in Sect. 3.2.7. Other general materials which may have been left inside the glove box are plastic and glass bottles and small metal tools. Several lead pigs should be expected in the waste containers, and it is unlikely that oil was drained from the vacuum pumps before disposal. Other waste materials discarded from this facility include Plexiglas and SST weighing boxes. The waste was packaged in wooden boxes or USAF boxes.

4.2.8 Isotopes Separation Facility, Bldg. 9204-3

Waste materials generated at this Y-12 Plant facility are the result of mass-separation operations. Thorium, uranium, and plutonium materials are fed into a mass-separation unit (calutron), where they are first vaporized and then ionized in an arc source. The ionized material is then accelerated through a

magnetic field, separated by atomic mass, and collected in a receiving unit. When these mass-separation units become contaminated, they are classified as RH TRU solid waste and sent to ORNL for storage. Typical waste materials include plutonium and thorium source units, calutron tanks, calutron liners, and other miscellaneous calutron equipment. Plutonium and thorium sources are roughly 2 ft^3, constructed mainly of copper and SST, and contain graphite heating elements with electrical connections. The calutron tank is a large vessel (approximately 750-ft^3 capacity) constructed of approximately 1-in.-thick metal. The calutron liners are approximately 6 ft × 1 ft and 0.0625-in.-thick SST. For disposal purposes, the calutron apparatus (liner, sources, and receiving units) was disassembled, and each piece was packaged separately. Miscellaneous calutron equipment includes various SST tubing used in the calutron wash system as well as ceramic insulator materials. No lead or mercury materials are expected in waste from this facility.

Waste packaging included at least two layers of plastic before being placed in steel boxes. Because of the variety of waste materials discarded at this facility, no general assumptions were made concerning the contents of a particular waste container. More detailed information describing the contents of each waste container is summarized on the Individual Waste Container Sheets.

4.2.9 Fission Products Development Laboratory Annex, Bldg. 3505

The FPDL Annex is responsible for generating one RH TRU waste container since 1970. The basement of this facility contains a canal area in which a mixture of dirt, mud, and sludge had been collecting for several years. This wet material, contaminated with mixed fission products and plutonium, was shoveled out with a plastic device attached to the end of a pole and loaded into two 55-gal SST drums before being loaded into a 12-in.-thick-wall concrete cask. Secondary data suggest that each waste drum contains 50% void space resulting in 8.1 ft^3 of total waste materials. Small amounts of plastic (scooping device) and metal (in the form of tools, small piping, etc.) should be expected in the waste, but the primary waste material is contaminated mud. Additional information regarding the contents of this cask is summarized on the Individual Waste Container Sheet for this waste container.

4.2.10 Metals and Ceramics Laboratory, Bldg. 4508

The M&C Laboratory is responsible for one waste container generated during experimentation to produce a plutonium–uranium oxide alloy. Typical waste materials include various types of wipes, possible plastic and glass containers, plastic tape, metal dust, rags, and small fragments of plutonium–uranium oxide alloy pellets. No large pieces of equipment or any lead or mercury is present in the waste. All waste materials were packaged in six double-bagged 1-gal metal cans. It is assumed that these metal cans were then packed in vermiculite within a SST drum that was then placed in the cask. Additional information regarding the contents of this cask is summarized on the Individual Waste Container Sheet for this waste container.

4.2.11 Isotope Technology Building, Bldg. 3047

Waste materials from this facility include curium-evaporation glove boxes similar to those discarded in the Isotope Production Area (Bldgs. 3033 and 3038). Secondary data for waste packages from this facility are unavailable. To characterize this waste, general waste-volume quantities were used for these glove boxes, despite the smaller size. Additional information regarding the contents of these waste containers is summarized on the Individual Waste Container Sheets.

4.2.12 Off-Site Generators

Several other off-site generators [Yankee Atomic Energy Commission (YAEC), New Brunswick National Laboratory (NBNL), and one in Puerto Rico] are responsible for the generation of RH TRU wastes that are currently stored at ORNL facilities. Secondary data describing these waste containers were unavailable. Additional information regarding the contents of these waste containers is summarized on the Individual Waste Container Sheets.

5. WASTE LOCATION

Over the past three decades, the storage of solid waste at ORNL has included burial in one of six Solid Waste Storage Areas (SWSAs), which are located on the Oak Ridge Reservation. Most of these burial grounds are no longer in operation with the exception of SWSAs 5 and 6. An additional burial ground, SWSA 7, is scheduled to begin operation in 1991. Only two areas contain RH TRU waste; these are SWSAs 4 and 5. Because waste in SWSA 4 is stored in a nonretrievable manner, this report focuses on RH TRU waste located in SWSA 5. (Map 1 of Melton Valley illustrates the location of SWSA 5.)

The RH TRU solid waste stored at the burial grounds was packaged in various containers. (As described in Sect. 3.1, these containers are concrete casks, boxes, drums, etc.) The current burial ground for RH TRU solid waste, SWSA 5, is divided into two main sections: SWSA 5 North and SWSA 5 South. SWSA 5 South contains 108 waste containers; the majority of these containers are placed in

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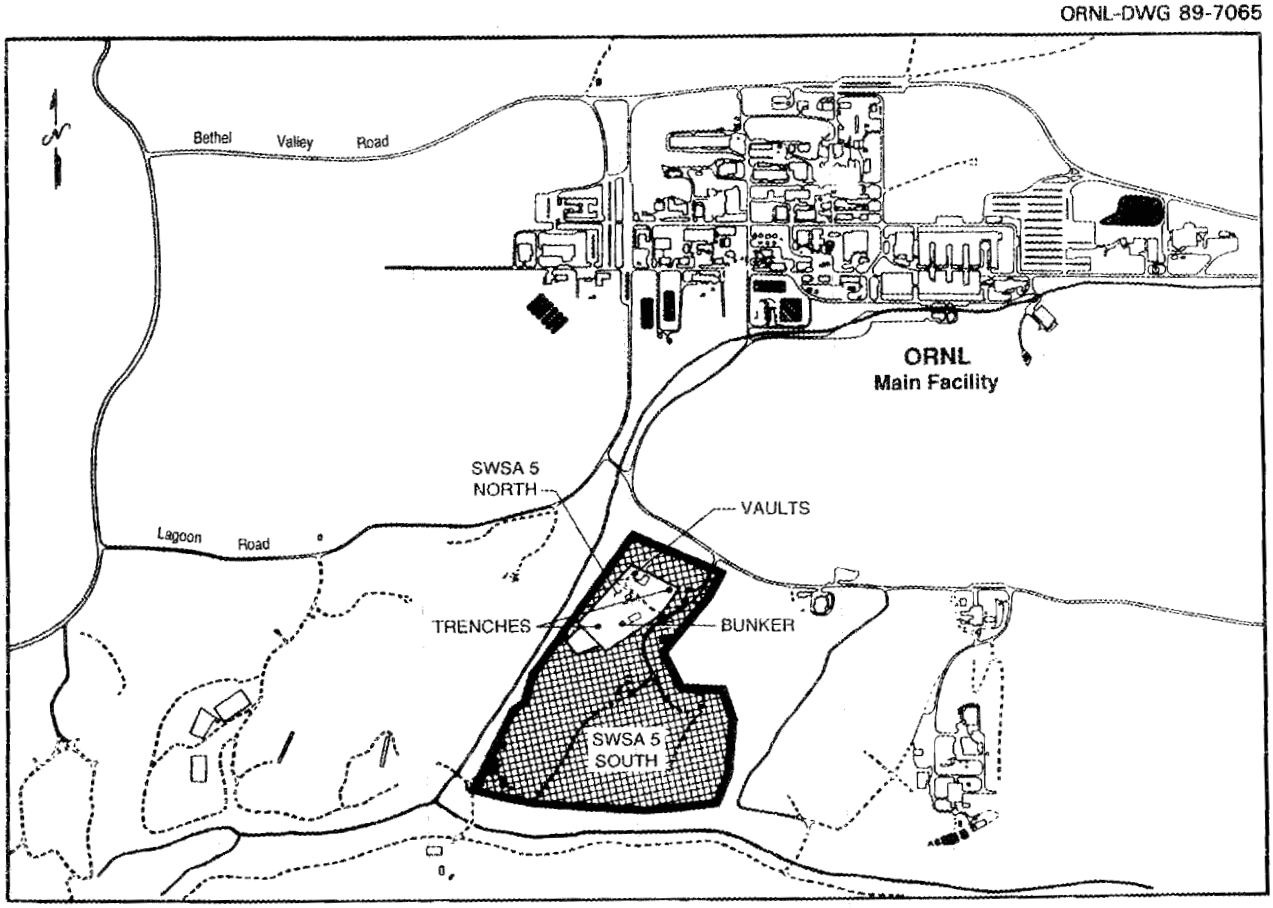

Map 1. Melton Valley with location of SWSA 5.

trenches. After a trench in SWSA 5 South had been filled with containers, these waste containers were immobilized with concrete. Thus, RH TRU waste stored in trenches at SWSA 5 South is considered nonretrievable. Also at SWSA 5 South, a few high-activity waste containers, considered SC waste, are stored in SST storage vaults. However, it is assumed that WHPP will not process any waste containers stored at SWSA 5 South (nor at SWSA 4) because of their nonretrievable status (in the case of the storage vaults, because of high-fissile material).

As stated in Sect. 1, the DOE master plan for TRU waste establishes a goal of ending interim storage and achieving permanent disposal of DOE TRU waste at WIPP. As a result of this master plan and the Directive DOE-TRU 8201 guidelines issued in 1970, newly generated RH TRU waste has been stored in a manner such that future retrieval for subsequent emplacement in WIPP could be achieved. To comply with DOE, ORNL began storing retrievable waste at SWSA 5 North. (An aerial photograph of SWSA 5 North is shown in Fig. 8.) Primarily, three retrievable storage techniques have been utilized at SWSA 5 North: trenches, a bunker, and vaults. (A map of SWSA 5 North with the three types of storage techniques and their locations are shown on Map 2.) Trenches have not been used for interim storage since the bunker became available in 1979.

5.1 TRU STORAGE TRENCHES

The majority of RH TRU waste containers sent to SWSA 5 North for storage are located in TRU trenches. A TRU trench is about 10 ft deep, 6 ft wide, of variable length, and designed primarily for the interim storage of concrete casks (see Fig. 9). However, several trenches (T-11, T-14, T-16, and T-17) contain wooden boxes (SC TRU), and some trenches (T-2, T-4, and T-6) contain both concrete casks and wooden boxes.

A review of primary data shows that there are 274 waste containers stored in 27 TRU trenches at SWSA 5 North. Discussions with Waste Operations and Burial Ground personnel suggest that the wooden containers in four of these trenches, located in the northeast corner of SWSA 5 (T-11, T-14, T-16, and T-17), have been filled with concrete.

It is also believed that three trenches (T-1, T-2, and T-3) contain two layers of concrete casks with the bottom layer immobilized with concrete to create the floor for the top layer. However, current data have yet to corroborate these suspicions. Therefore, it is assumed that each waste container stored in TRU trenches in SWSA 5 North is retrievable.

Waste containers were generally stored consecutively (according to their ATTNO or their storage date) in the TRU trenches; however, several trenches were in operation at the same time, resulting in a random storage order of waste containers. As a result, the location of many waste containers was difficult to determine. A total of 200 casks, 72 boxes,* and 2 drums are in the SWSA 5 North trenches.

5.2 RH TRU STORAGE BUNKER, BLDG. 7855

The RH TRU Waste Storage Bunker is an earth-sheltered storage facility constructed in 1979 to store RH TRU waste (see Fig. 10). The facility contains four storage cells, labeled A through D from west to east, which measure 12 × 10 × 60 ft. Until a cell contains a full inventory of waste packages (three columns of nine casks), the south wall of each cell is open to provide free access to the storage cell. The first three cells (A, B, and C), which contain a full inventory, have been temporarily sealed with a cinder-block wall. Cell D is now in operation with casks and boxes currently stored in the bunker cell.

A rank-and-file system is used within each cell to locate the waste containers. Each container is assigned a file label (A through C, from east to west within a particular cell) that locates the waste container in the east-west direction and a row number (1 through 9, from north to south within a particular cell) that locates the waste container in the north-south direction. A total of 84 RH TRU casks are currently in the bunker.

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*Three containers are classified as "other" container types in the RH TRU Solid Waste Database, but secondary data reveal that these containers are actually boxes that are considered SC TRU waste.

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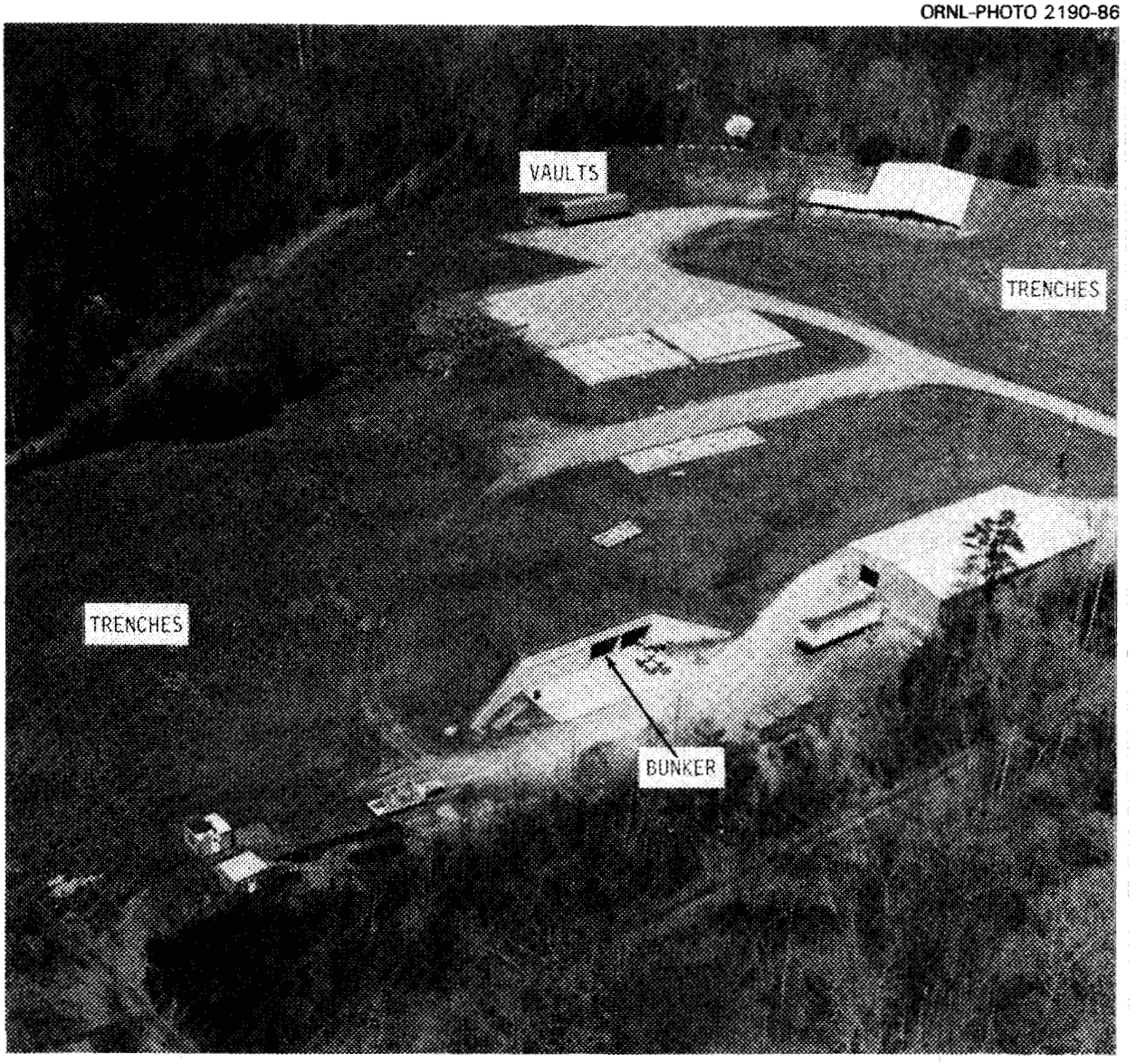
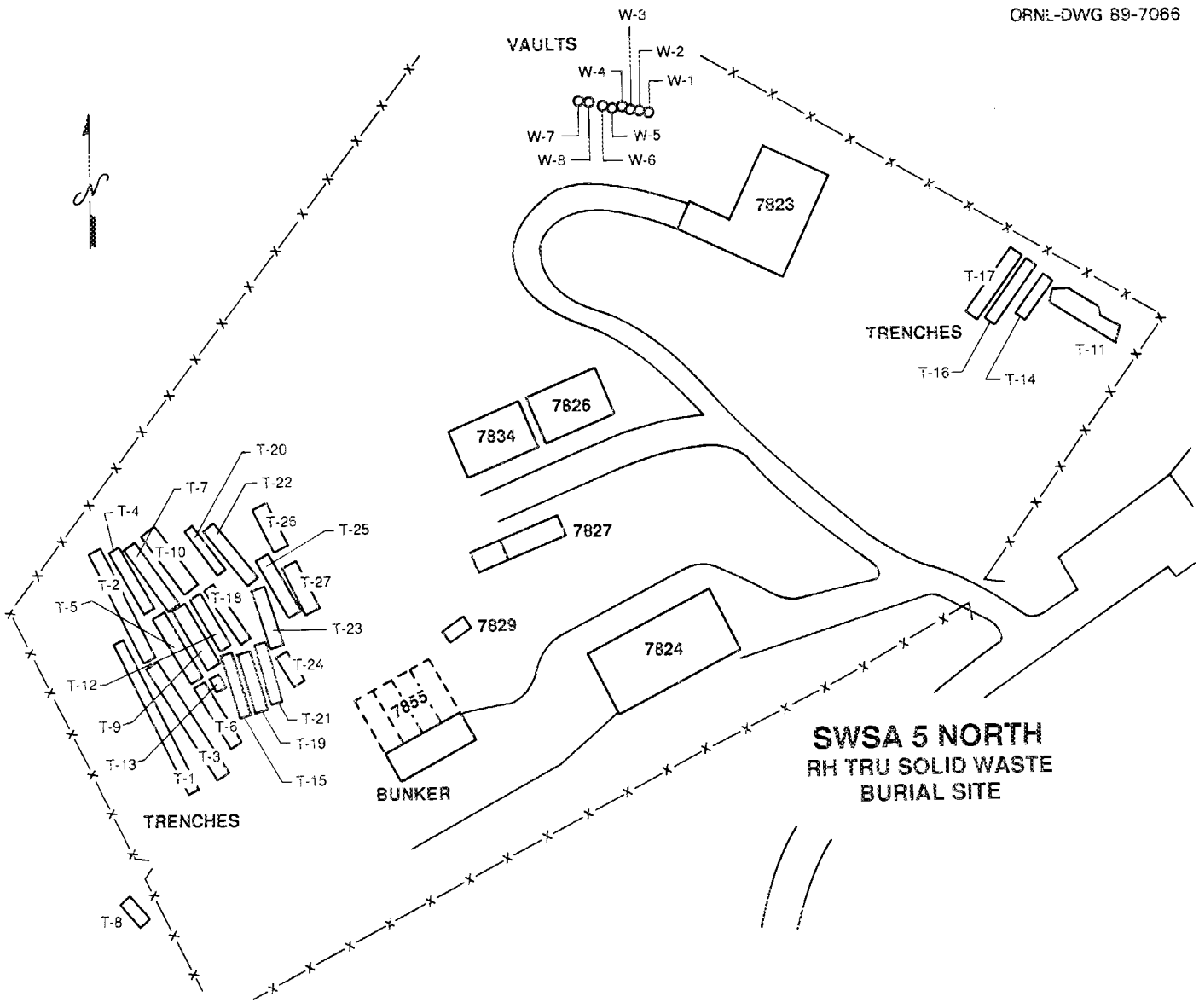


Fig. 8. Aerial view of SWSA 5 North.

5.3 STORAGE VAULTS

Currently, eight storage vaults are in SWSA 5 North, and two are in SWSA 5 South. These vaults are approximately 20 ft deep with varying diameters and are fitted with removable concrete plugs (see Fig. 11). A review of the primary data shows that the majority of the waste containers in these vaults contain high-activity waste (actual nuclear fuel material) generated at HRLEL (Bldg. 3525). Secondary data suggest that much of this material is packaged in 6-in.-diam SST tubes within the vaults. The 11 waste containers in these vaults are considered retrievable. However, because of the nature of the containers and their high-fissile content, the waste in these storage vaults is not considered RH TRU waste.

Appendix B contains individual storage location sheets showing all waste containers stored in each RH TRU trench, the RH TRU Storage Bunker, and each storage vault.



Map 2. Storage locations within SWSA 5 North.

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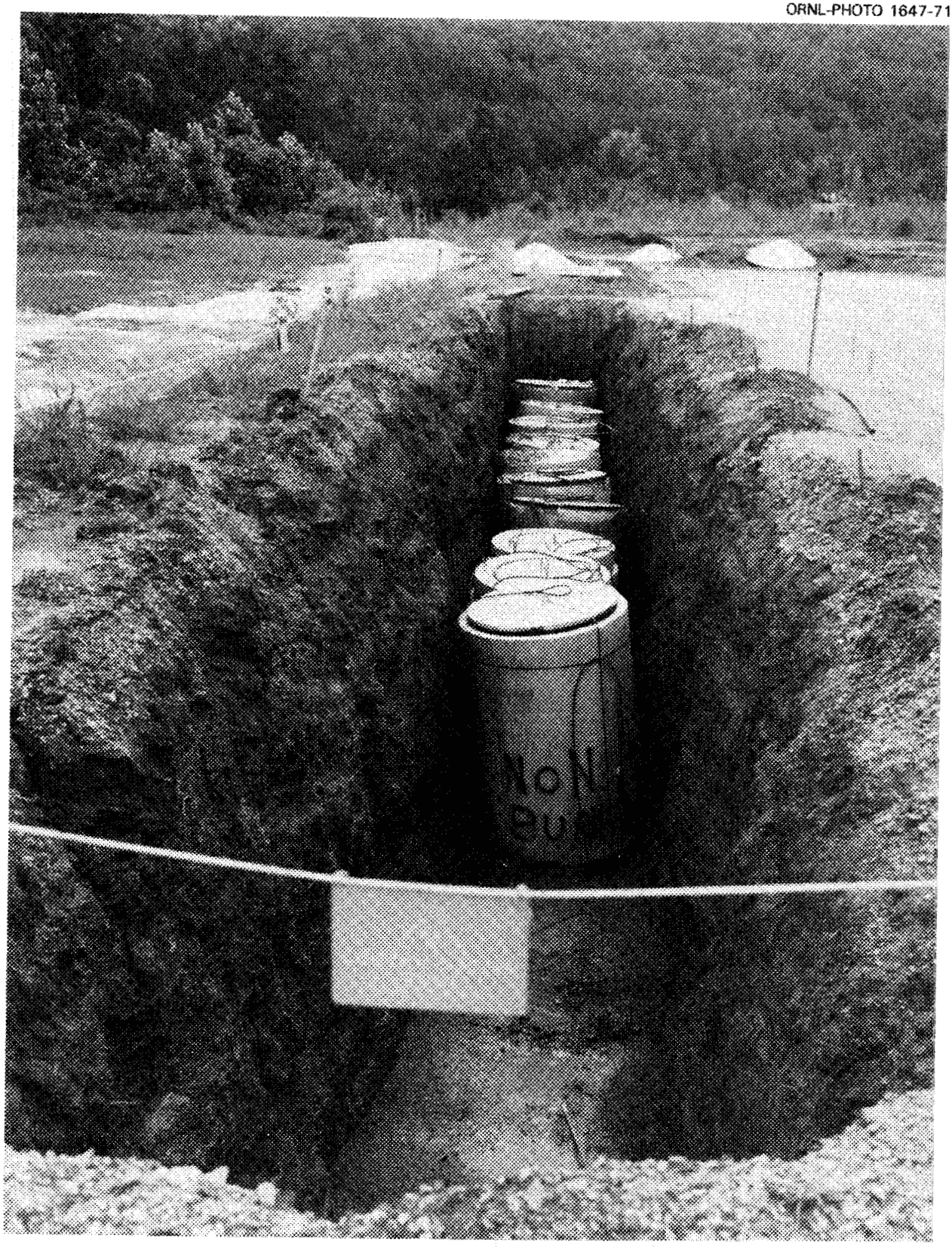

Fig. 9. Concrete casks in trench.

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Fig. 10. Concrete casks in storage bunker.

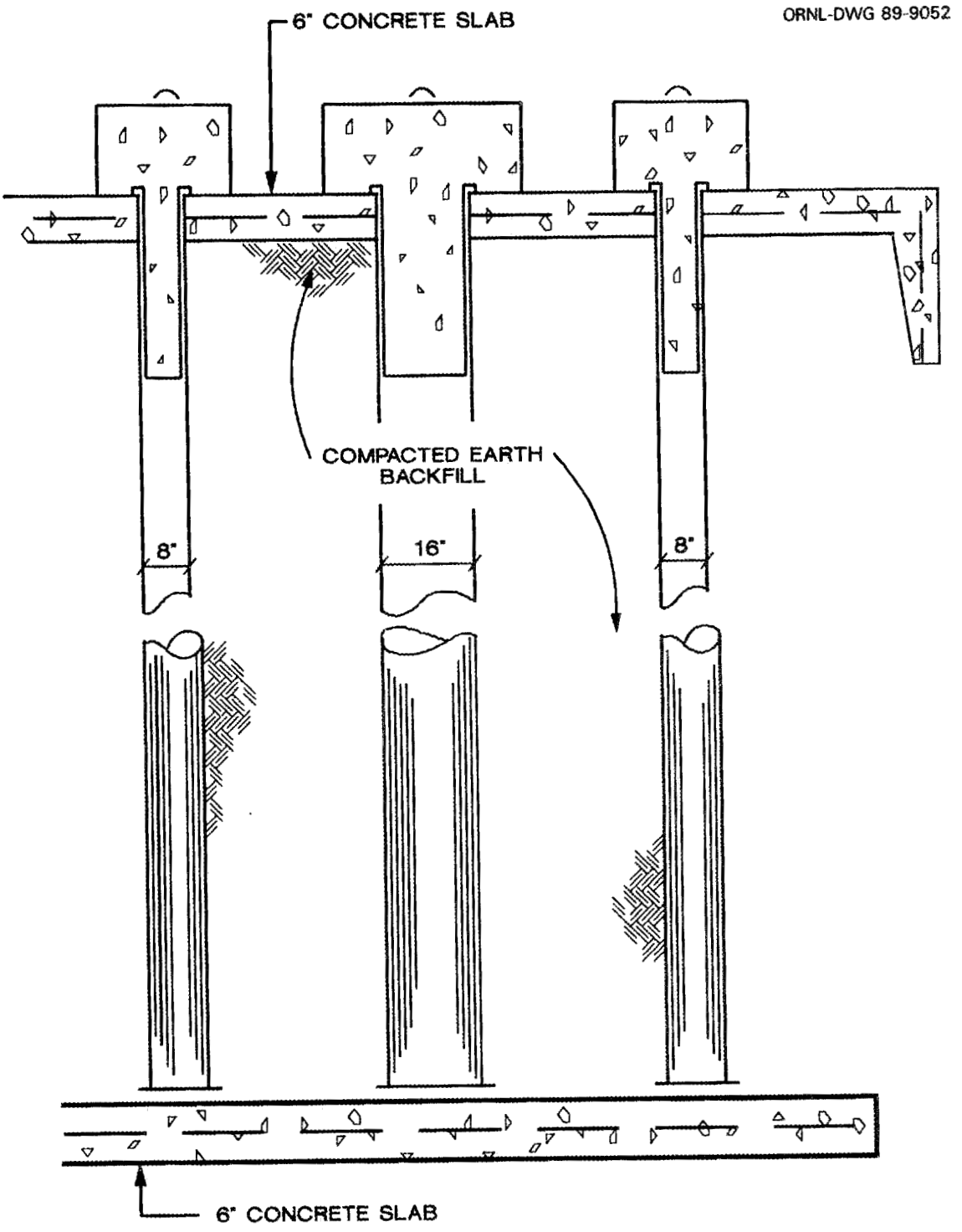

Fig. 11. Stainless steel storage vaults.

6. CONCLUSIONS

The primary objective of this report is to develop a comprehensive waste characterization of the RH TRU solid waste at ORNL that would support the WHPP conceptual design team from the ORNL Engineering Division. Specific information with regard to the solid waste would facilitate the efforts of the design team in selecting equipment and designing techniques for processing this waste. Information concerning stored RH TRU solid waste is recorded in a variety of formats (i.e., SWIMS, UCN-2822 forms, etc.). The database that accompanies this report [the ORNL RH TRU Solid Waste Database (Appendix E)] evolved from these different data resources. This database attempts to bridge the gap between the raw data and engineering design needs. To provide a more efficient and effective system for reviewing, summarizing, sorting, and tracking ORNL's inventory of RH TRU solid waste, the database proved to be a necessary and beneficial directive of this waste characterization study. Because a PC database has been implemented, one can quickly extrapolate various waste information, such as waste volumes, waste types, and isotopic data.

6.1 WASTE CONTENTS

To represent the various types of waste in the RH TRU solid-waste inventory, five categories of waste were created and incorporated into the RH TRU Solid Waste Database: glass, metal, paper, plastic, and cloth. Engineering has reviewed and agreed with these waste categories. Descriptions of these five types of waste are

Glass: glass bottles, light bulbs, sample bottles, Pyrex® filters, etc.

Metal: 0.5- and 0.75-in. SST jumper lines, miscellaneous tools and equipment, SST racks, pumps, metal waste drums, etc.

Paper: blotter paper, cardboard, fiber drums, miscellaneous waste, etc.

Plastic: polyethylene bags, buckets and tubing, shoe covers, gloves, manipulator boots, sample bottles, etc.

Cloth: radiation protection clothing, cloth wipes, sanitary napkins, etc.

The total volume of RH TRU solid waste currently stored at ORNL is 8311 ft^3 of material with 6180 ft^3 considered retrievable.* The breakdown of the retrievable total volume into the five types is 803 ft^3, glass; 2246 ft^3, metal; 464 ft^3, paper; 2528 ft^3, plastic; and 539 ft^3, cloth. Table 1 shows total waste volume and the breakdown of the five types.

Table 1. Waste volumes[a]

Waste material	Retrievable volume (ft^3)	Total volume (ft^3)
Glass	402.9	562.4
Metal	2245.8	2756.4
Paper	463.9	663.9
Plastic	2528.1	3580.5
Cloth	538.7	747.5
Total	6179.4	8310.7

[a]Waste volumes reflect little or no void space.

*The waste volumes presented in the database and summarized in this section are calculated estimations of the actual volume of waste material in the ORNL inventory. Since WHPP is still in the conceptual design phase, no effort was made to predict the packing factor that would result from processing and repackaging operations at WHPP.

Because of the needs of the design team, quantity categorization for specific items became necessary. Thus, a listing of the number of metal cans, plastic buckets, equipment, and filters are shown in Table 2. Descriptions of these four types plus

Table 2. Quantity of waste types

Waste material	Retrievable quantity	Total quantity
Cans	7044	9963
Plastic buckets	6050	8885
Filters	251	303
Equipment	110	131
RCRA suspect packages	212	269
WAC suspect packages	22	22
Other	192	234

containers with RCRA materials and suspect WIPP WAC violators are

Cans: Metal cans (mainly 1-gal paint cans). Thirty-gallon and 55-gal waste drums are not considered cans.

Plastic buckets: Polyethylene and Bain-Marie buckets.

Filters: Hot-cell operation filters such as HEPA filters, off-gas ventilation filters, etc.

Equipment: Processing racks, vacuum pumps, furnaces, centrifuges, etc. Glove boxes are not considered equipment.

RCRA suspect: The only known RCRA materials which have been identified in the RH TRU waste are mercury, lead, and oil. The estimated number of containers are listed.

WAC suspect: The only parameters established in the WIPP WAC which will be identified in the containers pertain to gas-generating materials, particulates, free liquids, sludges, organic materials, compressed gases, radioactive mixed wastes, and pyrophoric materials. The estimated number of containers are listed.

Other: Include wood, carbon, and actual Californium.

The total number of retrievable items found in the RH TRU solid waste are 7044 cans, 6050 buckets, 110 pieces of equipment, 217 suspect RCRA containers, and 22 suspect WIPP WAC containers.

Another important aspect of the waste content concerns isotopic information. Twenty-one different isotopes are present in the waste inventory and are listed in Table 3. A total quantity of 6.246×10^4 Ci are present with a retrievable quantity of 6.231×10^4 Ci.

Table 3. Quantities of transuranic isotopes

Isotope	Retrievable curies	Total curies
^{227}Ac	1.000×10^{-3}	1.000×10^{-3}
^{110}Ag	6.000×10^{4}	6.000×10^{4}
^{241}Am	3.445×10^{4}	3.769×10^{1}
^{243}Am	2.100×10^{-3}	2.100×10^{-3}
^{249}Bk	2.000×10^{-4}	2.000×10^{-4}
^{252}Cf	4.588×10^{1}	5.455×10^{1}
^{242}Cm		2.500×10^{-1}
^{244}Cm	4.292×10^{2}	4.561×10^{2}
^{60}Co	1.100×10^{3}	1.100×10^{3}
^{137}Cs	8.630×10^{1}	8.631×10^{1}
^{237}Np	1.000×10^{-1}	1.000×10^{-1}
^{238}Pu	1.757×10^{-2}	1.757×10^{-2}
^{239}Pu	2.733×10^{1}	4.538×10^{1}
^{240}Pu	2.390×10^{-1}	2.390×10^{-1}
^{241}Pu	5.600×10^{-3}	5.600×10^{-3}
^{226}Ra	1.000×10^{-1}	1.000×10^{-1}
^{90}Sr	1.110×10^{1}	1.110×10^{1}
^{232}Th	3.001×10^{0}	3.001×10^{0}
^{233}U	3.560×10^{0}	3.560×10^{0}
^{235}U	2.700×10^{-4}	1.140×10^{-3}
^{238}U	5.500×10^{-4}	5.500×10^{-4}
Unidentified	5.644×10^{2}	6.604×10^{2}
Total	6.231×10^{4}	6.246×10^{4}

The information given in Tables 1, 2, and 3 is also shown in the database (Appendix E) for each waste container. Thus, each waste container entered in the database provides a list of waste types, quantities, and isotopic contents.

6.2 WASTE CONTAINERS AND PACKAGES

As described in Sect. 3, many packaging techniques have been used at ORNL. These

techniques have resulted in waste containers of various size and construction. Concrete casks are the most numerous containers in the current inventory (approximately 80%) and are the primary containers used today. Metal and wooden boxes, which are considered SC TRU, comprise about 15% of the waste container inventory. However, boxes are no longer used for the storage of RH TRU waste. The condition of the retrievable boxes in trenches is unknown, and in some cases the boxes may be immobilized with concrete. Table 4 gives a complete breakdown of waste containers. The types of waste containers are also shown in the database (Appendix E) for each waste container.

Table 4. Container-type quantities

Container	Type[a]	Retrievable	Total
Casks			
4.5-in.-thick-wall	3	103	139
6.0-in.-thick-wall	4	147	215
12.0-in.-thick-wall	5	34	38
Subtotal		284	392
Drums (55-gal)	6	2	2
Boxes	8	69	69
Other	9	10	10
Shielded carriers	14	4	4
Total		369	477

[a]See Sect. 3.1 for a description of each container type.

Within the waste containers, smaller waste packages have been used to store waste. These packages include paint cans, polyethylene buckets, etc. Waste packages will be processed at WHPP as waste; thus, the materials used to construct the waste packages are considered in the waste volume for each waste container. Also, equipment and filters that were contaminated have been discarded and are included in the waste. Some waste packages within the containers are suspected to contain waste that violates RCRA regulations and/or WIPP WAC. The waste content quantities are described in Sect. 6.1.

6.3 WASTE GENERATORS

About 15 facilities have generated RH TRU solid waste at ORNL. The major contributor of RH TRU solid waste is TPP (Bldg. 7920), which accounts for about 70% of the total waste containers in ORNL's current RH TRU inventory and for about 65% of the retrievable containers. TPP is the only generator currently producing RH TRU solid waste; thus, these percentages will continue to increase. TURF (Bldg. 7930), RPP (Bldg. 3019/3121), and FPDL (Bldg. 3505) each produced about 5% of the containers in inventory. The remaining 11 generators account for the rest of the containers. A breakdown listing the number of containers per generator is shown in Table 5. Table 6 lists the generators according to the number of retrievable containers. Appendix A lists each generator and its waste containers—that is, all the waste containers generated at a given facility.

Table 5. Breakdown of all containers by generator

Generator	Containers	Percent
2026	1	0.2
3019/3121	24	5.0
3028	7	1.5
3047	3	0.6
3033/3038	8	1.7
3505	1	0.2
3508	23	4.8
3525	11	2.3
4501	1	0.2
4507	15	3.1
4508	4	0.8
7900	2	0.4
7920	336	70.4
7930	30	6.3
9204-3	7	1.5
Other	4	0.8
Total	477	100.0

A breakdown of a total waste listing of containers in ORNL's RH TRU inventory by storage date is presented in Table 7. As mentioned previously, with the decrease of generators, the number of waste containers also decreased. In the future TPP is planning to ship six casks per year to storage. This newly generated waste will be thoroughly documented, resulting in detailed information of the waste content.

The generator and the year of storage for a waste container which are listed in Tables 5, 6, and 7 are

also shown in the database (Appendix E) for each waste container.

Table 6. Breakdown of retrievable containers by generator

Generator	Containers	Percent
2026	1	0.3
3019/3121	24	6.5
3028	7	1.9
3047	3	0.8
3033/3038	8	2.2
3505	1	0.3
3508	23	6.2
3525	9	2.4
4501	1	0.3
4507	15	4.1
4508	4	1.1
7900	1	0.3
7920	238	64.5
7930	23	6.2
9204-3	7	1.9
Other	4	1.1
Total	369	100.0

Table 7. Breakdown of containers by storage year

Storage year	Retrievable waste containers	Total waste containers
1963	1	1
1967	0	1
1969	1	1
1970	3	32
1971	18	80
1972	49	64
1973	43	43
1974	40	41
1975	45	45
1976	33	33
1977	22	22
1978	17	17
1979	11	11
1980	15	15
1981	10	10
1982	9	9
1983	14	14
1984	10	10
1985	10	10
1986	14	14
1987	4	4
Total	369	477

6.4 WASTE LOCATION

At ORNL, SWSAs 4 and 5 contain RH TRU solid waste with retrievable waste in SWSA 5 North. Three techniques are used to store solid waste in a retrievable manner: trenches (a technique no longer used), a bunker (the current technique), and vaults. These three techniques are used in SWSA 5 North, with the most predominant being the trench method. The storage bunker technique was not implemented until 1979, but it provides the simplest method for waste retrieval and is the current storage method. Because of their nature and content, the materials stored in the vaults at SWSA 5 are considered SC waste and represent the least used storage method.

Twenty-seven trenches, eight vaults, and one storage bunker are located in SWSA 5 North. (Their locations are illustrated by Maps 1 and 2 in Sect. 5.) These storage modes along with container quantities are listed in Table 8. The bunker is the current method of storage because trenches are no longer being used to store newly generated waste. Subsequently, the number of waste containers in trenches will remain constant, but the number of containers (casks) in the bunker will increase as newly generated waste is stored. The storage location given in Table 8 is also shown in the database (Appendix E) for each waste container. Appendix B presents a listing of each storage mode and location and its waste containers (i.e., under Trench 17 are all waste containers stored at that location).

6.5 PROJECTED STRATEGY

The ORNL RH TRU Solid Waste Database is intended to maintain a record of the current inventory and newly generated RH TRU waste stored at ORNL facilities. The database will serve as a dynamic structure to track RH TRU waste as it is generated in the future. Data for newly generated waste will be entered into the database, and an Individual Waste Container Sheet will be created for that waste container.

This database is intended to support ORNL's Engineering Division in its design efforts of WHPP. Also, the database will support WHPP's Technical Support Task, Solid Waste Characterization and

Table 8. Breakdown of containers by storage location

Storage location	Retrievable waste containers	Total waste containers
SWSA 5 South		
T-126		1
T-128		4
T-166		1
T-168		8
T-188		44
T-196		1
T-206		28
T-214		21
Vaults	2	2
Subtotal	2	110
SWSA 5 North		
T-1	38	38
T-2	29	29
T-3	19	19
T-4	11	11
T-5	10	10
T-6	7	7
T-7	9	9
T-8	2	2
T-9	15	15
T-10	8	8
T-11	17	17
T-12	7	7
T-13	2	2
T-14	3	3
T-15	9	9
T-16	23	23
T-17	16	16
T-18	9	9
T-19	8	8
T-20	4	4
T-21	2	2
T-22	7	7
T-23	6	6
T-24	2	2
T-25	7	7
T-26	3	3
T-27	1	1
Vaults	9	9
Bunker	84	84
Subtotal	367	367
Total	369	477

Examination, which is to exhume one to five casks from the trenches and examine the contents. The examination will determine the condition of the waste and, in collaboration with this database, verify calculations and assumptions in this report. A third area where this database will be useful is in WHPP's operational analysis of solid waste throughput and in output of drums that will be shipped to WIPP. Finally, the database should support the actual operation of WHPP.

The Individual Waste Container Sheets, which were created in conjunction with the database, are not a part of this document. They will be maintained as a separate document to eventually serve WHPP operations. Each sheet contains the data listed in the database plus additional information concerning the actual container contents. These sheets will be maintained on all current retrievable and newly generated waste. It is hoped that the Individual Waste Container Sheets will support WHPP operations to determine the content and type of waste to expect before a cask is brought into the hot cell and to support any campaign strategy analysis.

ACKNOWLEDGMENTS

This characterization report was sponsored by the WHPP Program, Technical Support Task, Solid Waste Characterization and Examination. The support and encouragement given by the WHPP Program Manager, Doug W. Turner, and the Principal Engineer, Jim W. Moore, were very much appreciated. A number of helpful discussions and meetings were held with TPP personnel, staff of smaller generators such as the RPP (Bldg. 3019), and personnel and staff of the Solid Radioactive Waste Operations on solid-waste content and packaging.

A number of people provided valuable information that went into the report. Fred Chattin, Charlie Roberts, and L. J. King were primarily responsible for the operations data of TPP (historical and current). In the solid-waste operations group, J. E. Van Cleeve, J. Bolinsky, C. S. Satterfield, and N. A. Langley provided burial-ground and SWIMS data. David Page, a co-op student from Tennessee Technological University, Cookeville, of the Environmental and Health Protection Division, provided hours of work in compiling comments, reworking sections, and organizing the document. David continued the work begun by former co-op students David Osucha and Scott Joost.

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Appendix A

WASTE GENERATORS

APPENDIX A. WASTE GENERATORS

Since many facilities have been involved in the generation of RH TRU and SC TRU solid waste at ORNL, different waste containers and waste-packing techniques have evolved from the various generation facilities. Subsequently, the generation facility provides a clue to the type of waste and the packaging techniques used in preparing a container (see Sect. 4 for a description of each waste generator). Thus, this appendix categorizes the RH TRU inventory of waste according to the appropriate generator. The waste containers from each generator are identified by their attention number (ATTNO), their storage date, and their container type.

Table A.1. Transuranium Processing Plant, Bldg. 7920[a]

ATTNO	Date	Generator	Type	ATTNO	Date	Generator	Type
2	10/06/70	7920	4	106	05/19/71	7920	4
3	10/11/70	7920	4	107	05/21/71	7920	4
5	11/06/70	7920	3	110	06/08/71	7920	4
9	11/19/70	7920	3	114	06/14/71	7920	4
10	11/20/70	7920	4	115	06/16/71	7920	3
12	11/20/70	7920	3	119	06/21/71	7920	4
13	12/02/70	7920	3	125	06/30/71	7920	4
26	01/11/71	7920	5	126	06/30/71	7920	4
28-1	01/15/71	7920	4	132	07/12/71	7920	4
28-2	01/15/71	7929	4	133	07/13/71	7920	4
29	01/18/71	7920	3	136	07/20/71	7920	5
38	02/01/71	7920	3	138	07/22/71	7920	4
40	02/02/71	7920	4	147	07/29/71	7920	4
48	02/23/71	7920	4	152	08/09/71	7920	4
49	02/23/71	7920	4	153	08/09/71	7920	3
52	02/24/71	7920	4	155	08/13/71	7920	4
54	02/26/71	7920	4	158	08/20/71	7920	3
56	11/18/70	7920	8	159	08/20/71	7920	4
58	11/18/70	7920	8	164	08/27/71	7920	4
59	03/02/71	7920	4	170	09/10/71	7920	4
61	03/08/71	7920	3	179	09/21/71	7920	3
67	03/11/71	7920	4	180	09/21/71	7920	4
69	03/19/71	7920	3	181	09/21/71	7920	4
70	03/22/71	7920	4	194	09/29/71	7920	5
79	04/06/71	7920	4	215	10/12/71	7920	5
80	04/06/71	7920	4	230	10/20/71	7920	3
82	04/08/71	7920	4	231	10/20/71	7920	4
85	04/15/71	7920	3	241	10/26/71	7920	4
87	04/19/71	7920	4	267	11/09/71	7920	3
93	05/04/71	7920	8	272	11/15/71	7920	4
95	05/07/71	7920	4	273	11/16/71	7920	4
96	05/07/71	7920	3	274	11/18/71	7920	4
99	05/18/71	7920	4	282	11/23/71	7920	4

Table A.1 (continued)

ATTNO	Date	Generator	Type
284	12/01/71	7920	3
285	12/03/71	7920	5
299	12/17/71	7920	3
323	01/14/72	7920	4
327	01/18/72	7920	4
338	02/02/72	7920	3
339	02/02/72	7920	4
387	02/28/72	7920	4
413	03/09/72	7920	3
414	03/09/72	7920	4
415	03/14/72	7920	4
426	04/05/72	7920	3
427	04/11/72	7920	4
430	04/14/72	7920	5
443	05/03/72	7920	4
446	05/11/72	7920	3
447	05/11/72	7920	4
450	05/19/72	7920	4
459	05/31/72	7920	3
461	06/05/72	7920	4
466	06/19/72	7920	3
467	06/19/72	7920	4
470	06/26/72	7920	5
522	07/05/72	7920	4
525	07/11/72	7920	3
532	07/25/72	7920	3
542	08/16/72	7920	4
543	08/16/72	7920	3
548	08/28/72	7920	3
554	09/11/72	7920	4
560	09/19/72	7920	3
564	09/21/72	7920	3
565	09/26/72	7920	3
567	09/28/72	7920	4
571	10/02/72	7920	3
589	10/05/72	7920	3
590	10/05/72	7920	4
605	10/13/72	7920	4
610	10/25/72	7920	3
614	11/09/72	7920	5
621	11/17/72	7920	4
626	11/29/72	7920	3
641	12/18/72	7920	3
642	12/18/72	7920	3
644	01/03/73	7920	4
645	01/03/73	7920	4
646	01/15/73	7920	4
655	01/25/73	7920	4
656	01/25/73	7920	3
659	02/02/73	7920	5
669	02/21/73	7920	4
672	02/28/73	7920	5
675	03/06/73	7920	4
676	03/06/73	7920	3
685	03/28/73	7920	4
689	04/10/73	7920	3
690	04/10/73	7920	3
691	04/10/73	7920	5
695	04/26/73	7920	4
700	05/21/73	7920	3
701	05/21/73	7920	3
707	05/31/73	7920	4
710	06/06/73	7920	4
715	06/26/73	7920	3
716	07/03/73	7920	3
725	08/07/73	7920	3
726	08/07/73	7920	3
727	08/07/73	7920	4
755	09/26/73	7920	4
756	10/02/73	7920	3
770	10/23/73	7920	4
779	11/15/73	7920	3
781	12/05/73	7920	3
783	12/13/73	7920	4
784	12/13/73	7920	3
785	12/13/73	7920	3
786	12/19/73	7920	5
797	01/18/74	7920	3
802	02/13/74	7920	4
843	04/02/74	7920	4
844	04/02/74	7920	4
845	04/09/74	7920	4
846	04/11/74	7920	4
857	04/26/74	7920	5
871	04/15/74	7920	3
876	05/23/74	7920	4
882	06/14/74	7920	4
883	06/17/74	7920	4
884	06/18/74	7920	4
905	07/19/74	7920	3
908	08/09/74	7920	4
918-1	03/17/72	7920	4
919	08/23/74	7920	3
920	08/23/74	7920	3
921	09/10/74	7920	3
938	10/25/74	7920	3
939	10/25/74	7920	4
971	02/06/75	7920	3
972	02/06/75	7920	4
981	02/24/75	7920	4
1000	03/25/75	7920	3
1001	03/21/75	7920	3

Table A.1 (continued)

ATTNO	Date	Generator	Type	ATTNO	Date	Generator	Type
1027	05/02/75	7920	3	1535	11/30/77	7920	4
1028	05/02/75	7920	4	1536	11/30/77	7920	3
1030	05/07/75	7920	5	1545	12/27/77	7920	4
1046	06/17/75	7920	3	1561	02/10/78	7920	4
1047	06/17/75	7920	3	1568	03/01/78	7920	5
1091	09/03/75	7920	3	1578	03/21/78	7920	4
1092	09/03/75	7920	3	1581	03/23/78	7920	4
1093	09/04/75	7920	4	1593	04/21/78	7920	3
1117	09/22/75	7920	4	1600	05/02/78	7920	3
1118	09/22/75	7920	3	1628	07/27/78	7920	3
1133	10/22/75	7920	4	1661	08/21/78	7920	3
1188	12/18/75	7920	3	1667	09/08/78	7920	3
1189	12/18/75	7920	4	1683	10/04/78	7920	3
1190	12/18/75	7920	3	1684	10/04/78	7920	3
1209	01/14/76	7920	4	1690	07/27/78	7920	8
1237	03/10/76	7920	3	1700	11/13/78	7920	3
1248	03/18/76	7920	4	1714	12/06/78	7920	4
1262	04/07/76	7920	3	1726	01/30/79	7920	4
1263	04/07/76	7920	4	1746	03/21/79	7920	4
1264	04/07/76	7920	3	1833	06/27/79	7920	4
1271	04/22/76	7920	5	1834	06/27/79	7920	4
1277	05/12/76	7920	3	1852	08/30/79	7920	4
1278	05/25/76	7920	4	1856	09/10/79	7920	4
1290	08/06/76	7920	3	1863	09/26/79	7920	3
1291	08/06/76	7920	4	1864	09/26/79	7920	5
1313	10/05/76	7920	3	1878	10/05/79	7920	5
1314	10/05/76	7920	3	1905	12/14/79	7920	4
1315	10/05/76	7920	4	1937	02/14/80	7920	4
1331	11/11/76	7920	4	2012	03/28/80	7920	4
1332	11/11/76	7920	3	2022	08/01/80	7920	4
1337	12/19/74	7920	3	2023	05/22/80	7920	4
1342	12/20/76	7920	3	2024	05/22/80	7920	4
1344	12/20/76	7920	3	2062	10/09/80	7920	4
1353	01/31/77	7920	3	2070	12/04/80	7920	4
1354	01/31/77	7920	3	2071	12/04/80	7920	4
1357	03/10/77	7920	4	2077	02/02/81	7920	4
1358	03/10/77	7920	3	2078	04/30/81	7920	5
1369	04/25/77	7920	3	2093	03/23/81	7920	4
1370	04/26/77	7920	4	2200	04/30/81	7920	4
1371	04/28/77	7920	5	2205	06/09/81	7920	4
1376	04/26/77	7920	3	2223	09/11/81	7920	4
1383	06/30/77	7920	3	2229	05/24/83	7920	4
1384	06/30/77	7920	3	2240	09/11/81	7920	4
1386	07/21/77	7920	4	2241	10/15/81	7920	4
1507	09/09/77	7920	3	2244	12/04/81	7920	4
1508	09/01/77	7920	3	2247	03/16/82	7920	4
1509	09/01/77	7920	3	2260	07/01/82	7920	4
1515	10/11/77	7920	4	2265	05/13/82	7920	4
1516	10/11/77	7920	3	2275	08/06/82	7920	4

Table A.1 (continued)

ATTNO	Date	Generator	Type	ATTNO	Date	Generator	Type
2277	08/19/82	7920	5	2697	12/11/86	7920	4
2279	01/04/83	7920	4	2698	08/06/86	7920	4
2284	09/29/82	7920	4	2699	06/20/86	7920	5
2285	09/29/82	7920	4	2866	06/04/87	7920	4
2296	05/24/83	7920	4	2869	11/06/87	7920	4
2406	02/25/83	7920	4	2870	11/06/87	7920	4
2434	08/04/83	7920	4	–	07/29/67	7920	4
2438	10/17/83	7920	5	–	01/15/70	7920	4
2446	10/17/83	7920	4	–	01/26/70	7920	4
2450	11/15/83	7920	4	–	02/12/70	7920	4
2455	12/15/83	7920	4	–	03/27/70	7920	4
2457	01/06/84	7920	5	–	06/22/70	7920	4
2461	02/07/84	7920	4	–	06/24/70	7920	4
2474	07/03/84	7920	4	–	06/29/70	7920	4
2475	07/03/84	7920	4	–	07/10/70	7920	4
2482	07/17/84	7920	4	–	07/17/70	7920	3
2493	08/17/84	7920	4	–	09/04/70	7920	3
2499	10/31/84	7920	4	–	09/04/70	7920	3
2600	10/31/84	7920	4	–	09/11/70	7920	4
2607	01/10/85	7920	4	–	09/15/70	7920	4
2612	03/05/85	7920	4	–	09/24/70	7920	4
2613	03/05/85	7920	4	–	09/30/70	7920	3
2614	03/15/85	7920	5	–	10/04/70	7920	3
2626	06/27/85	7920	4	–	10/09/70	7920	4
2627	06/27/85	7920	4	–	10/09/70	7920	3
2632	08/12/85	7920	4	–	10/11/70	7920	3
2634	09/17/85	7920	4	–	10/22/70	7920	3
2640	11/04/85	7920	4	–	10/28/70	7920	4
2644	12/04/85	7920	4	–	08/21/73	7920	3
2645	01/24/86	7920	4	–	08/24/73	7920	4
2664	04/08/86	7920	4	–	03/07/74	7920	4
2665	04/08/86	7920	4	–	10/10/75	7920	4
2682	06/10/86	7920	4	–	10/22/75	7920	4
2689	11/20/86	7920	4	–	10/24/75	7920	4
2694	01/15/87	7920	4	–	11/10/75	7920	3

[a]From 1970 to 1987, the Transuranium Processing Plant generated 332 casks and 4 boxes.

Table A.2. Thorium-Uranium Recycle Facility, Bldg. 7930[a]

ATTNO	Date	Generator	Type
17	12/11/70	7930	3
319	01/14/72	7930	3
320	01/14/72	7930	3
321	01/14/72	7930	3
322	01/14/72	7930	3
364	02/10/72	7930	4
365	02/10/72	7930	4
634	12/06/72	7930	4
635	12/06/72	7930	4
636	12/06/72	7930	4
922	09/20/74	7930	8
1048	06/17/75	7930	3
1049	06/17/75	7930	3
1050	06/17/75	7930	3
1299	08/20/76	7930	5
1300	08/26/76	7930	5
1306	09/16/76	7930	3
1307	09/16/76	7930	3
1711	12/14/78	7930	5
1712	12/14/78	7930	5
1713	12/14/78	7930	5
2351	03/25/83	7930	5
2352	03/25/83	7930	5
2353	03/31/83	7930	5
2685	10/27/86	7930	5
2686	10/27/86	7930	5
2687	10/27/87	7930	4
2814	03/10/86	7930	5
2815	03/10/86	7930	5
2816	03/12/86	7930	5

[a]From 1970 to 1987, the Thorium-Uranium Recycle Facility generated 29 casks and 1 box.

Table A.3. Radiochemical Processing Plant, Bldgs. 3019/3121[a]

ATTNO	Date	Generator	Type
7	11/09/70	3019	4
205	09/30/71	3019	4
318	01/13/72	3019	4
612	11/01/72	3019	4
796	02/14/74	3019	3
968	01/30/75	3121	3
1004	04/08/75	3121	3
1009	04/28/75	3019	3
1086	08/07/75	3019	3
1109	09/09/75	3121	3
1131	10/02/75	3019	8
1276	05/21/76	3019	3
1321	09/22/76	3019	3
1400	08/30/77	3121	4
1478	04/25/77	3019	3
1506	09/02/77	3121	4
1981	09/25/80	3121	4
1988	10/15/80	3121	4
2300	03/02/82	3121	4
878-1	01/28/71	3019	8
878-2	01/28/71	3019	8
878-3	01/28/71	3019	8
–	04/15/80	3019	8
–	04/15/80	3019	8

[a]From 1970 to 1982, the Radiochemical Processing Plant generated 18 casks and 6 boxes.

Table A.4. Chemical Technology Alpha Laboratory, Bldg. 3508[a]

ATTNO	Date	Generator	Type
814	02/20/74	3508	8
816	02/28/74	3508	8
817	02/27/74	3508	8
837	03/20/74	3508	8
841	03/28/74	3508	8
842	03/28/74	3508	8
847	04/17/74	3508	8
848	04/17/74	3508	8
858	05/01/74	3508	8
881	06/11/74	3508	8
897	06/21/74	3508	8
1186	12/09/75	3508	8
1308	09/17/76	3508	9
1987	12/14/79	3508	8
2103	04/04/81	3508	8
2134	12/22/80	3508	8
--	01/10/80	3508	8
130-1	04/22/71	3508	8
130-2	04/22/71	3508	8
130-3	04/22/71	3508	8
859-1	05/02/74	3508	8
859-2	05/02/74	3508	8
859-3	05/02/74	3508	8

[a]From 1971 to 1981 the Chemical Technology Alpha Laboratory generated 22 boxes and 1 other waste package.

Table A.5. High-Radiation-Level Chemical Development Laboratory, Bldg. 4507[a]

ATTNO	Date	Generator	Type
247	10/29/71	4507	8
248	10/29/71	4507	8
1002	03/25/75	4507	8
1003	03/25/75	4507	8
1025	04/28/75	4507	8
1040	05/15/75	4507	8
1044	06/06/75	4507	8
1069	06/26/75	4507	8
1130	09/29/75	4507	8
1132	10/07/75	4507	8
1186	12/09/75	4507	8
1187	12/23/75	4507	8
1213	01/27/76	4507	8
1236	02/17/76	4507	8
1281	06/18/76	4507	8

[a]From 1971 to 1976, the High-Radiation-Level Chemical Development Laboratory generated 15 waste packages.

Table A.6. High-Radiation-Level Examination Laboratory, Bldg. 3525[a]

ATTNO	Date	Generator	Type
33	01/22/71	3525	4
78	04/02/71	3525	4
81	04/06/71	3525	4
591	10/06/72	3525	14
607	10/16/72	3525	9
640	12/13/72	3525	14
412	03/09/72	3525	9
711	06/11/73	3525	9
805	02/15/74	3525	9
962	01/07/75	3525	9
953	11/22/74	3525	3

[a]From 1971 to 1975, the High-Radiation-Level Examination Laboratory generated four casks and seven other waste packages.

Table A.7. Isotope Production Area, Bldgs. 3033/3038[a]

ATTNO	Date	Generator	Type
546	08/22/72	3033	8
679	03/21/73	3033	8
686	03/30/73	3033	8
1942	02/21/80	3038	4
2307	04/05/82	3038	3
2350	03/02/83	3038	3
2384	10/21/83	3038	4
2521	04/02/84	3038	4

[a]From 1972 to 1984, the Isotopes Production Area generated five casks and three boxes.

Table A.8. Radioisotope Production Laboratory A, Bldg. 3028[a]

ATTNO	Date	Generator	Type
122	06/25/71	3028	8
568	10/02/72	3028	8
569	10/02/72	3028	8
570	10/02/72	3028	8
737	08/31/73	3028	8
738	08/31/73	3028	8
739	08/31/73	3028	8

[a]From 1971 to 1973, the Radioisotope Production Laboratory generated seven boxes.

Table A.9. Isotopes Separation Facility, Bldg. 9204-3 (Y-12 Plant)[a]

ATTNO	Date	Generator	Type
302	12/29/71	9204	8
303	12/29/71	9204	8
304	12/29/71	9204	8
305	12/29/71	9204	8
799	02/05/74	9204	8
1292	08/06/76	9204	9
1323	09/01/76	9204	9

[a]From 1971 to 1976, the Isotopes Separation Facility at the Y-12 Plant generated five boxes and two other waste packages.

Table A.10. Fission Products Development Laboratory Annex, Bldg. 3505[a]

ATTNO	Date	Generator	Type
2528	06/22/84	3505	5

[a]In 1984, the Fission Products Development Laboratory Annex generated one cask.

Table A.11. Metals and Ceramics Laboratory, Bldg. 4508[a]

ATTNO	Date	Generator	Type
660	02/05/73	4508	9
1283	06/23/76	4508	6
1284	06/23/76	4508	6
1293	11/14/76	4508	3

[a]From 1973 to 1976, the Metals and Ceramics Laboratory generated one cask and three other waste packages.

Table A.12. Isotope Technology Building, Bldg. 3047[a]

ATTNO	Date	Generator	Type
124	06/29/71	3047	8
127	06/30/71	3047	8
379	02/23/72	3047	8

[a]In 1971 and 1972, the Isotope Technology Building generated three boxes.

Table A.13. High-Radiation-Level Analytical Laboratory, Bldg. 2026[a]

ATTNO	Date	Generator	Type
684	03/27/73	2026	8

[a]In 1973, the High-Radiation-Level Analytical Laboratory generated one box.

Table A.14. High-Level Radiochemical Laboratory, Bldg. 4501[a]

ATTNO	Date	Generator	Type
963	11/07/75	4501	9

[a]In 1975, the High-Level Radiochemical Laboratory generated one waste package.

Table A.15. High-Flux Isotope Reactor, Bldg. 7900[a]

ATTNO	Date	Generator	Type
300	12/17/71	7900	4
909	08/09/74	7900	3

[a]In 1971 and 1974, the High-Flux Isotope Reactor generated two casks.

Table A.16. Off-Site generators[a]

ATTNO	Date	Generator	Type
0–1	10/01/69	P.RICO	14
0–2	07/31/63	YAEC	14
473	06/29/72	NBNL	8
474	06/29/72	NBNL	8

[a]Four waste containers from off-site generators are currently stored at ORNL. The Yankee Atomic Energy Commission and a generator in Puerto Rico each have a waste container stored at ORNL. The New Brunswick National Laboratory has two boxes at ORNL.

Appendix B

WASTE LOCATIONS

APPENDIX B. WASTE LOCATIONS

B.1 TRU STORAGE TRENCHES AT SWSA 5 NORTH

The 27 trenches at SWSA 5 North contain 274 retrievable waste containers. This section of Appendix B lists these trenches along with the containers in each trench. The attention number (ATTNO), burial date, waste generator, container type, and waste location are provided for each container. With regard to the location information, the feet from zero (FFO) column identifies how many feet a container is from the end of a trench, and the feet from top (FFT) column identifies how many feet a container is beneath the ground surface. Additional comments follow each trench listing.

Table B.1.1. Trench 1[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
560	09/19/72	7920	4	T 1	5	8
430	04/14/72	7920	5	T 1	10	15
426	04/05/72	7920	3	T 1	15	15
612	11/01/72	3019	4	T 1	15	3
614	11/09/72	7920	5	T 1	15	3
427	04/11/72	7920	4	T 1	20	15
610	10/25/72	7920	3	T 1	20	3
443	05/03/72	7920	4	T 1	25	6
590	10/05/72	7920	4	T 1	25	3
446	05/11/72	7920	4	T 1	30	6
589	10/05/72	7920	3	T 1	30	3
447	05/11/72	7920	4	T 1	35	7
571	10/02/72	7920	4	T 1	35	3
567	09/28/72	7920	4	T 1	40	3
81	04/06/71	3525	4	T 1	45	6
565	09/26/72	7920	4	T 1	45	3
466	06/19/72	7920	3	T 1	50	12
605	10/13/72	7920	4	T 1	50	3
542	08/16/72	7920	4	T 1	55	8
646	01/15/73	7920	4	T 1	55	3
543	08/16/72	7920	4	T 1	60	8
532	07/25/72	7920	4	T 1	65	10
467	06/19/72	7920	4	T 1	70	12
644	01/03/73	7920	4	T 1	70	3
461	06/05/72	7920	4	T 1	72	6
459	05/31/72	7920	3	T 1	75	6
641	12/18/72	7920	3	T 1	75	3
645	01/03/73	7920	4	T 1	75	3
450	05/19/72	7920	4	T 1	80	6
642	12/18/72	7920	3	T 1	80	3

Table B.1.1. (continued)

ATTNO	Date	Generator	Type	Location	FFO	FFT
470	06/26/72	7920	5	T 1	87	10
525	07/11/72	7920	3	T 1	95	10
522	07/05/72	7920	4	T 1	96	10
626	11/29/72	7920	3	T 1	100	3
548	08/28/72	7920	3	T 1	103	8
554	09/11/72	7920	3	T 1	105	8
621	11/17/72	7920	4	T 1	105	3
564	09/21/72	7920	3	T 1	110	8

[a]Trench 1 contains 38 casks placed in two layers, one stacked on top of the other. Casks that are deeper than 6 FFT are considered to be on the bottom row. Also, according to the UCN-2822 forms, several containers appear to be in the same location. These containers may have been placed beside each other.

Table B.1.2. Trench 2[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
715	06/26/73	7920	3	T 2	5	4
710	06/06/73	7920	4	T 2	10	10
707	05/31/73	7920	4	T 2	15	10
672	02/28/73	7920	5	T 2	20	10
676	03/06/73	7920	3	T 2	20	10
675	03/06/73	7920	4	T 2	25	10
685	03/28/73	7920	4	T 2	35	10
7	11/09/70	3019	4	T 2	40	10
655	01/25/73	7920	4	T 2	40	10
656	01/25/73	7920	3	T 2	45	10
659	02/02/73	7920	5	T 2	45	10
669	02/21/73	7920	4	T 2	50	6
716	07/03/73	7920	3	T 2	55	4
695	04/26/73	7920	4	T 2	60	6
691	04/10/73	7920	5	T 2	70	10
689	04/10/73	7920	3	T 2	75	10
701	05/21/73	7920	3	T 2	75	10
690	04/10/73	7920	3	T 2	80	10
700	05/21/73	7920	3	T 2	80	10
634	12/06/72	7930	4	T 2	85	3
635	12/06/72	7930	4	T 2	90	3
636	12/06/72	7930	4	T 2	95	3
205	09/30/71	3019	4	T 2	–	–
305	11/29/71	9204	8	T 2	–	–
302	12/29/71	9204	8	T 2	–	–
303	12/29/71	9204	8	T 2	–	–
304	12/29/71	9204	8	T 2	–	–
318	01/13/72	3019	4	T 2	–	–
546	08/22/72	3033	8	T 2	–	–

[a]Trench 2 contains 24 casks and 5 boxes placed in two layers, one stacked on top of the other. Backup location data for two casks and five boxes in the trench does not exist. Casks that are deeper than 6 FFT are considered to be on the bottom row. Also, according to the UCN-2822 forms, several containers appear to be in the same location. These containers may have been placed beside each other.

Table B.1.3. Trench 3[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
–	08/21/73	7920	3	T 3	–	–
–	08/24/73	7920	4	T 3	–	–
779	11/15/73	7920	3	T 3	17	6
770	10/23/73	7920	4	T 3	18	5
756	10/02/73	7920	4	T 3	20	5
781	12/05/73	7920	3	T 3	25	6
784	12/13/73	7920	4	T 3	25	6
725	08/07/73	7920	3	T 3	30	7
727	08/07/73	7920	4	T 3	30	7
783	12/13/73	7920	4	T 3	30	6
786	12/19/73	7920	5	T 3	30	6
726	08/07/73	7920	3	T 3	35	7
785	12/13/73	7920	4	T 3	40	6
797	01/18/74	7920	4	T 3	45	6
755	09/26/73	7920	4	T 3	50	7
802	02/13/74	7920	4	T 3	50	6
796	02/14/74	3019	3	T 3	55	6
–	03/07/74	7920	4	T 3	–	–
843	04/02/74	7920	4	T 3	65	4

[a]Trench 3 contains 19 casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench. Backup data for three casks in Trench 3 do not exist.

Table B.1.4. Trench 4[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
909	08/09/74	7900	3	T 4	5	4
908	08/09/74	7920	4	T 4	10	4
921	09/10/74	7920	3	T 4	15	4
884	06/18/74	7920	4	T 4	20	4
876	05/23/74	7920	4	T 4	25	5
922	09/20/74	7930	8	T 4	–	–
857	04/26/74	7920	5	T 4	35	5
846	04/11/74	7920	4	T 4	40	4
845	04/09/74	7920	4	T 4	45	4
919	08/23/74	7920	3	T 4	50	4
939	10/25/74	7920	4	T 4	50	4

[a]Trench 4 contains ten casks and one box. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench. Backup data for the location of ATTNO 922 in this trench do not exist.

Table B.1.5. Trench 5[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
905	07/19/74	7920	3	T 5	5	4
920	08/23/74	7920	3	T 5	10	4
883	06/17/74	7920	4	T 5	15	4
871	04/15/74	7920	3	T 5	20	4
938	10/25/74	7920	3	T 5	25	4
953	11/22/74	3525	3	T 5	–	–
968	01/30/75	3121	3	T 5	40	3
1337	12/19/74	7920	3	T 5	45	4
971	02/06/75	7920	3	T 5	45	3
1001	03/21/75	7920	3	T 5	50	4

[a]Trench 5 contains ten casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench. Backup data for the location of ATTNO 953 do not exist.

Table B.1.6. Trench 6[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
972	02/06/75	7920	4	T 6	5	3
1028	05/02/75	7920	4	T 6	5	4
1086	08/07/75	3019	3	T 6	10	4
981	02/24/75	7920	4	T 6	12	3
1000	03/25/75	7920	3	T 6	20	4
1046	06/17/75	7920	3	T 6	25	4
1009	04/28/75	3019	3	T 6	30	4

[a]Trench 6 contains seven casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench.

Table B.1.7. Trench 7[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1091	09/03/75	7920	3	T 7	5	4
–	11/10/75	7920	3	T 7	–	–
1049	06/17/75	7930	3	T 7	15	4
1050	06/17/75	7930	3	T 7	15	4
1048	06/17/75	7930	3	T 7	18	4
1047	06/17/75	7920	3	T 7	25	4
1030	05/07/75	7920	5	T 7	40	4
1027	05/02/75	7920	3	T 7	45	4
1004	04/08/75	3121	3	T 7	50	4

[a]Trench 7 contains nine casks. Data from the UCN-2822 forms indicate that several casks are placed in the same location of the trench. Location data for one cask do not exist.

Table B.1.8. Trench 8[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1092	09/03/75	7920	3	T 8	–	–
1118	09/22/75	7920	3	T 8	35	4

[a]Trench 8 contains two casks. The location data for one cask do not exist.

Table B.1.9. Trench 9[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1093	09/04/75	7920	4	T 9	5	4
1109	09/09/75	3121	3	T 9	–	–
1117	09/22/75	7920	4	T 9	15	4
1133	10/22/75	7920	4	T 9	18	4
1189	12/18/75	7920	4	T 9	25	4
1188	12/18/75	7920	3	T 9	30	4
1190	12/18/75	7920	3	T 9	30	4
1237	03/10/76	7920	3	T 9	30	4
1209	01/14/76	7920	4	T 9	40	4
1248	03/18/76	7920	4	T 9	45	4
1263	04/07/76	7920	4	T 9	48	4
1262	04/07/76	7920	3	T 9	50	4
–	10/10/75	7920	4	T 9	–	–
–	10/22/75	7920	4	T 9	–	–
–	10/24/75	7920	4	T 9	–	–

[a]Trench 9 contains 15 casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench. Backup location data for three casks in Trench 9 do not exist.

Table B.1.10. Trench 10[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1264	04/07/76	7920	3	T 10	0	4
1277	05/12/76	7920	3	T 10	15	4
1299	08/20/76	7930	5	T 10	15	4
1315	10/05/76	7920	4	T 10	15	4
1290	08/06/76	7920	3	T 10	35	4
1276	05/21/76	3019	3	T 10	40	4
1278	05/25/76	7920	4	T 10	40	5
1271	04/22/76	7920	5	T 10	45	11

[a]Trench 10 contains eight casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench.

Table B.1.11. Trench 11[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
56	11/18/70	7920	9	T 11	–	–
58	11/18/70	7920	9	T 11	–	–
878-1	01/28/71	3019	8	T 11	–	–
878-2	01/28/71	3019	8	T 11	–	–
878-3	01/28/71	3019	8	T 11	–	–
130-1	04/22/71	3508	8	T 11	–	–
130-2	04/22/71	3508	8	T 11	–	–
130-3	04/22/71	3508	8	T 11		
93	05/04/71	7920	8	T 11	–	–
122	06/25/71	3028	8	T 11	–	–
124	06/29/71	3047	8	T 11	–	–
127	06/30/71	3047	8	T 11	–	–
679	03/21/73	3033	8	T 11	–	–
684	03/27/73	2026	8	T 11	–	–
1130	09/29/75	4507	8	T 11	–	–
1131	10/02/75	3019	8	T 11	–	–
1132	10/07/75	4507	8	T 11	–	–

[a]Backup data for the location of the 17 boxes in Trench 11 do not exist.

Table B.1.12. Trench 12[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1291	08/06/76	7920	4	T 12	10	4
1300	08/26/76	7930	5	T 12	15	4
1321	09/22/76	3019	3	T 12	20	4
1307	09/16/76	7930	3	T 12	28	3
1306	09/16/76	7930	3	T 12	35	3
1314	10/05/76	7920	3	T 12	40	4
1313	10/05/76	7920	3	T 12	45	4

[a]Seven casks are buried in Trench 12.

Table B.1.13. Trench 13[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1283	06/23/76	4508	6	T 13	–	–
1284	06/23/76	4508	6	T 13	–	–

[a]Trench 13 is very small and contains only two 55-gal CS drums, both considered pyrophoric. Backup data for the location of the containers in Trench 13 do not exist.

Table B.1.14. Trench 14[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1323	09/01/76	9204	9	T 14	5	6
1292	08/06/76	9204	9	T 14	15	4
816	02/28/74	3508	8	T 14	35	5

[a]Trench 14 contains one 4 × 4 × 12-ft box; one 5 × 11 × 16-ft box; and one Air Force box, in that order.

Table B.1.15. Trench 15[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1331	11/11/76	7920	4	T 15	5	4
1332	11/11/76	7920	3	T 15	8	4
1293	11/14/76	4508	3	T 15	12	4
1344	12/20/76	7920	3	T 15	15	5
1342	12/20/76	7920	3	T 15	20	5
1370	04/26/77	7920	4	T 15	25	4
1369	04/25/77	7920	3	T 15	30	4
1354	01/31/77	7920	3	T 15	40	4
1353	01/31/77	7920	3	T 15	45	4

[a]Trench 15 contains nine casks.

Table B.1.16. Trench 16[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
248	10/29/71	4507	8	T 16	–	–
686	03/30/73	3033	8	T 16	–	–
814	02/20/74	3508	8	T 16	–	–
817	02/27/74	3508	8	T 16	–	–
837	03/20/74	3508	8	T 16	–	–
841	03/28/74	3508	8	T 16	–	–
842	03/28/74	3508	8	T 16	–	–
848	04/17/74	3508	8	T 16	–	–
858	05/01/74	3508	8	T 16	–	–
859-2	05/02/74	3508	8	T 16	–	–
859-3	05/02/74	3508	8	T 16	–	–
881	06/11/74	3508	8	T 16	–	–
1002	03/25/75	4507	8	T 16	–	–
1003	03/25/75	4507	8	T 16	–	–
1025	04/28/75	4507	8	T 16	–	–
1040	05/15/75	4507	8	T 16	–	–
1044	06/06/75	4507	8	T 16	–	–
1069	06/26/75	4507	8	T 16	–	–
1186	12/09/75	3508	8	T 16	–	–
1186	12/09/75	4507	8	T 16	–	–
1213	01/27/76	4507	8	T 16	–	–
1236	02/17/76	4507	8	T 16	–	–
1308	09/17/76	3508	9	T 16	–	–

[a]Backup data for the location of the 23 boxes in Trench 16 do not exist. ATTNO 1308 is assigned to four separate boxes.

Table B.1.17. Trench 17[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
247	10/29/71	4507	8	T 17	–	–
379	02/23/72	3047	8	T 17	–	–
473	06/29/72	NBNL	8	T 17	–	–
474	06/29/72	NBNL	8	T 17	–	–
568	10/02/72	3028	8	T 17	–	–
569	10/02/72	3028	8	T 17	–	–
570	10/02/72	3028	8	T 17	–	–
737	08/31/73	3028	8	T 17	–	–
738	08/31/73	3028	8	T 17	–	–
739	08/31/73	3028	8	T 17	–	–
799	02/05/74	9204	8	T 17	–	–
847	04/17/74	3508	8	T 17	–	–
859-1	05/02/74	3508	8	T 17	–	–
897	06/21/74	3508	8	T 17	–	–
1187	12/23/75	4507	8	T 17	–	–
1281	06/18/76	4507	8	T 17	–	–

[a]Backup location data for the 16 boxes in Trench 17 do not exist.

Table B.1.18. Trench 18[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1386	07/21/77	7920	4	T 18	15	5
1376	04/26/77	7920	3	T 18	20	4
1478	04/25/77	3019	3	T 18	25	4
1371	04/28/77	7920	5	T 18	30	5
1384	06/30/77	7920	3	T 18	35	3
1358	03/10/77	7920	3	T 18	40	5
1400	08/30/77	3121	4	T 18	45	5
1508	09/01/77	7920	3	T 18	45	3
1357	03/10/77	7920	4	T 18	45	5

[a]Trench 18 contains nine casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench.

Table B.1.19. Trench 19[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1383	06/30/77	7920	3	T 19	5	3
1509	09/01/77	7920	3	T 19	10	3
1506	09/02/77	3121	4	T 19	–	–
1507	09/09/77	7920	3	T 19	25	4
1515	10/11/77	7920	4	T 19	–	–
1516	10/11/77	7920	3	T 19	35	4
1535	11/30/77	7920	4	T 19	40	5
1536	11/30/77	7920	3	T 19	45	5

[a]Trench 19 contains eight casks. Backup location data for two casks in Trench 19 do not exist.

Table B.1.20. Trench 20[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1545	12/27/77	7920	4	T 20	10	3
1568	03/01/78	7920	5	T 20	25	3
1561	02/10/78	7920	4	T 20	45	5
1578	03/21/78	7920	4	T 20	50	3

[a]Trench 20 contains four casks.

Table B.1.21. Trench 21[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1581	03/23/78	7920	4	T 21	45	4
1690	07/27/78	7920	8	T 21	–	–

[a]One cask and one box are in Trench 21. Backup information for the location of ATTNO 1690 does not exist.

Table B.1.22. Trench 22[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1600	05/02/78	7920	3	T 22	5	5
1683	10/04/78	7920	3	T 22	15	4
1628	07/27/78	7920	3	T 22	20	4
1684	10/04/78	7920	3	T 22	20	4
1661	08/21/78	7920	3	T 22	25	4
1667	09/08/78	7920	3	T 22	35	3
1593	04/21/78	7920	3	T 22	50	5

[a]Trench 22 contains seven casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench.

Table B.1.23. Trench 23[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1726	01/30/79	7920	4	T 23	10	5
1712	12/14/78	7930	5	T 23	20	5
1713	12/14/78	7930	5	T 23	25	5
1711	12/14/78	7930	5	T 23	30	5
1700	11/13/78	7920	3	T 23	45	5
1714	12/06/78	7920	4	T 23	45	5

[a]Trench 23 contains six casks. Location information from the UCN-2822 forms indicates that several casks are placed in the same location of the trench.

Table B.1.24. Trench 24[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1987	12/14/79	3508	8	T 24	–	–
–	01/10/80	3508	8	T 24	–	–

[a]Backup data for the location for these two boxes do not exist.

Table B.1.25. Trench 25[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
1864	09/26/79	7920	5	T 25	5	5
1863	09/26/79	7920	3	T 25	10	5
1856	09/10/79	7920	4	T 25	20	4
1852	08/30/79	7920	4	T 25	25	4
1834	06/27/79	7920	4	T 25	35	5
1833	06/27/79	7920	4	T 25	40	5
1746	03/21/79	7920	4	T 25	45	6

[a]Trench 25 contains seven casks.

Table B.1.26. Trench 26[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
–	04/15/80	3019	8	T 26	–	–
–	04/15/80	3019	8	T 26	–	–
2134	12/22/80	3508	8	T 26	–	–

[a]Backup data for the location of the three boxes in Trench 26 do not exist.

Table B.1.27. Trench 27[a]

ATTNO	Date	Generator	Type	Location	FFO	FFT
2103	04/04/81	350	8	T 27	5	4

[a]Trench 27 contains one box.

B.2 RH TRU STORAGE BUNKER (BLDG. 7855) AT SWSA 5 NORTH

Currently, the RH TRU Storage Bunker contains 84 concrete casks with 2 additional high-radioactivity waste containers stored in cell C. Cells A, B, and C have been sealed with a cinder-block wall, while cell D remains open for storage. This section of Appendix B lists the containers in each of the cells according to its ATTNO, storage date, and generator. Additional information such as container type and location in the bunker are provided (see Sect. 5.2 for a description of the bunker).

The following cask and box in cell C of the storage bunker are not categorized as TRU waste but are stored in the bunker because of high radioactivity.

ATTNO	Date	Generator	Type	Location	Cell	Rank	File
-	12/18/84	KAPL	8	7855	C	-	-
-	09/23/86	3525	4	7855	C	-	-

Table B.2.1. RH TRU Storage Bunker (Bldg. 7855) at SWSA 5 North

ATTNO	Date	Generator	Type	Location	Cell	Rank	File
1937	02/14/80	7920	4	7855	A	1	A
2012	03/28/80	7920	4	7855	A	1	B
1942	02/21/80	3038	4	7855	A	1	C
1905	12/14/79	7920	4	7855	A	2	A
2024	05/22/80	7920	4	7855	A	2	B
1878	10/05/79	7920	5	7855	A	2	C
2023	05/22/80	7920	4	7855	A	3	A
1981	09/25/80	3121	4	7855	A	3	B
2022	08/01/80	7920	4	7855	A	3	C
2062	10/09/80	7920	4	7855	A	4	A
1988	10/15/80	3121	4	7855	A	4	B
2071	12/04/80	7920	4	7855	A	4	C
2070	12/04/80	7920	4	7855	A	5	A
2077	02/02/81	7920	4	7855	A	5	B
2093	03/23/81	7920	4	7855	A	5	C
2200	04/30/81	7920	4	7855	A	6	A
2078	04/30/81	7920	5	7855	A	6	B
2205	06/09/81	7920	4	7855	A	6	C
2223	09/11/81	7920	4	7855	A	7	A
2240	09/11/81	7920	4	7855	A	7	B
2241	10/15/81	7920	4	7855	A	7	C
2247	03/16/82	7920	4	7855	A	8	A
2300	03/02/82	3019	4	7855	A	8	B
2244	12/04/81	7920	4	7855	A	8	C
2307	04/05/82	3038	3	7855	A	9	A
2265	05/13/82	7920	4	7855	A	9	B
2260	07/01/82	7920	4	7855	A	9	C
2285	09/29/82	7920	4	7855	B	1	A
2277	08/19/82	7920	5	7855	B	1	B
2275	08/06/82	7920	4	7855	B	1	C
2284	09/29/82	7920	4	7855	B	2	A
2406	02/25/83	7920	4	7855	B	2	B
2279	01/04/83	7920	4	7855	B	2	C
2350	03/02/83	3038	3	7855	B	3	A
2351	03/25/83	7930	5	7855	B	3	B
2352	03/25/83	7930	5	7855	B	3	C

Table B.2.1 (continued)

ATTNO	Date	Generator	Type	Location	Cell	Rank	File
2229	05/24/83	7920	4	7855	B	4	A
2296	05/24/83	7920	4	7855	B	4	B
2353	03/31/83	7930	5	7855	B	4	C
2434	08/04/83	7920	4	7855	B	5	A
2438	10/17/83	7920	5	7855	B	5	B
844	04/02/74	7920	4	7855	B	5	C
2446	10/17/83	7920	4	7855	B	6	A
2384	10/21/83	3038	4	7855	B	6	B
2450	11/15/83	7920	4	7855	B	6	C
2461	02/07/84	7920	4	7855	B	7	A
2457	01/06/84	7920	5	7855	B	7	B
2455	12/15/83	7920	4	7855	B	7	C
2521	04/02/84	3038	4	7855	B	8	A
2528	06/22/84	3505	5	7855	B	8	B
2475	07/03/84	7920	4	7855	B	8	C
2474	07/03/84	7920	4	7855	B	9	A
2482	07/17/84	7920	4	7855	B	9	B
2493	08/17/84	7920	4	7855	B	9	C
2600	10/31/84	7920	4	7855	C	1	A
2499	10/31/84	7920	4	7855	C	1	B
2607	01/10/85	7920	4	7855	C	1	C
2612	03/05/85	7920	4	7855	C	2	C
2632	08/12/85	7920	4	7855	C	3	A
2634	09/17/85	7920	4	7855	C	3	B
2613	03/05/85	7920	4	7855	C	3	C
2644	12/04/85	7920	4	7855	C	4	A
2640	11/04/85	7920	4	7855	C	4	B
2614	03/15/85	7920	5	7855	C	4	C
2645	01/24/86	7920	4	7855	C	5	A
2815	03/10/86	7930	5	7855	C	5	B
2626	06/27/85	7920	4	7855	C	5	C
2627	06/27/85	7920	4	7855	C	6	C
2665	04/08/86	7920	4	7855	C	7	A
2814	03/10/86	7930	5	7855	C	7	C
2686	10/27/86	7930	5	7855	C	8	A
2682	06/10/86	7920	4	7855	C	8	B
2664	04/08/86	7920	4	7855	C	8	C
2687	10/27/86	7930	4	7855	C	9	A
2685	10/27/86	7930	5	7855	C	9	B
2698	08/06/86	7920	4	7855	C	9	C
2816	03/12/86	7930	5	7855	C	–	–
2699	06/20/86	7920	5	7855	D	1	A
2689	11/20/86	7920	4	7855	D	1	B
2694	01/15/87	7920	4	7855	D	1	C
2869	11/06/87	7920	4	7855	D	2	A
2866	06/04/87	7920	4	7855	D	2	B
2697	12/11/86	7920	4	7855	D	2	C
2870	11/06/87	7920	4	7855	D	3	A

[a]The RH TRU Storage Bunker (Bldg. 7855) contains 84 casks of RH TRU solid waste.

B.3 STORAGE VAULTS

Eight storage vaults are located in SWSA 5 North, and only two are located in SWSA 5 South. This section of Appendix B lists the containers in each vault. The containers are identified by their attention number (ATTNO), storage date, generator, and container type.

Table B.3.1. Storage vaults[a]

ATTNO	Date	Generator	Type	Location
0-2	07/31/63	YAEC	14	SSW 118
0-1	10/01/69	P.RICO	14	SSW 119
660	02/05/73	4508	9	W 1
711	06/11/73	3525	9	W 2
640	12/13/72	3525	14	W 3
412	03/09/72	3525	9	W 3
591	10/06/72	3525	14	W 4
607	10/16/72	3525	9	W 4
963	11/07/75	4501	9	W 6
962	01/07/75	3525	9	W 7
805	02/15/74	3525	9	W 8

[a]Stainless steel storage vaults (SSW) 118 and 119 are located in SWSA 5 South; the other vaults are located in SWSA 5 North. Because of the nature and the high fissile content of these vaults, the vaults are considered SC waste.

B.4 TRU STORAGE TRENCHES AT SWSA 5 SOUTH

A total of 108 casks are in the identified RH TRU trenches at SWSA 5 South. This section of Appendix B lists these trenches along with the number of containers in each trench. The containers in these trenches are considered buried (nonretrievable).

Table B.4.1. TRU storage trenches at SWSA 5 South[a]

Trench	Containers
126	1
128	4
166	1
168	8
188	44
196	1
206	28
214	21

[a]The identified RH TRU trenches in SWSA 5 South contain a total of 108 casks.

Appendix C

CALCULATIONS

APPENDIX C. CALCULATIONS

This appendix illustrates the calculations that have been made with regard to container and waste-package volumes. The calculations for each container and waste package are presented individually. Because a large amount of void volume is inherent to the packaging techniques discussed in this report, void volume calculations are also provided.

C.1 VOLUME CALCULATIONS

The dimensions of the various containers and waste packages are presented below along with volume calculations.

Calculation symbols:

D = diameter
D_E = density
H = height
H_C = compaction height
L = length
M = mass
π = pi
T = thickness
V_E = external volume
V_I = internal volume
V_{SIDE} = volume of side panel
V_{TOP} = volume of top panel
V_C = container volume
W = width

C.1.1 Waste Containers

C.1.1.1 Concrete Cask

External dimensions:

D = 54 in.
H = 89.75 in.

$$V_E = \pi \times H \times (D/2)^2$$
$$= 205{,}500 \text{ in.}^3$$
$$= 119 \text{ ft}^3.$$

C.1.1.1.1 4.5-in.-thick-wall cask

Internal dimensions:

D = 45 in.
H = 73 in.

$$V_I = \pi \times H \times (D/2)^2$$
$$= 116{,}100 \text{ in.}^3$$
$$= 67.2 \text{ ft}^3.$$

C.1.1.1.2 6-in.-thick-wall cask

Internal dimensions:

D = 42 in.
H = 73 in.

$$V_I = \pi \times H \times (D/2)^2$$
$$= 101{,}100 \text{ in.}^3$$
$$= 58.5 \text{ ft}^3.$$

C.1.1.1.3 12-in.-thick-wall cask

Internal dimensions:

D = 30 in.
H = 70 in.

$$V_I = \pi \times H \times (D/2)^2$$
$$= 49{,}480 \text{ in.}^3$$
$$= 28.6 \text{ ft}^3.$$

C.1.1.2 Wooden Box

Waste Operations estimates that 75% of all wooden boxes used for disposal purposes measure 4 × 4 × 6 ft. These boxes are constructed of approximately 0.625-in.-thick wood. Because of minimal secondary data, this waste characterization will assume that each wooden box is this size.

External dimensions:

H = 48 in.
L = 48 in.
W = 72 in.

$$V_E = L \times W \times H$$
$$= 165{,}900 \text{ in.}^3$$
$$= 96 \text{ ft}^3.$$

Internal dimensions:

$$H = 46.75 \text{ in.}$$
$$L = 46.75 \text{ in.}$$
$$W = 70.75 \text{ in.}$$

$$V_I = L \times W \times H$$
$$= 154{,}600 \text{ in.}^3$$
$$= 89.5 \text{ ft}^3.$$

Volume of wood:

$$V_C = V_E - V_I$$
$$= 11{,}300 \text{ in.}^3$$
$$= 6.54 \text{ ft}^3.$$

C.1.1.3 U.S. Air Force Box

Many different sizes of USAF boxes have been used for RH TRU solid waste disposal. The majority of the UCN-2822 forms specify the approximate size. It is assumed that these metal boxes are 0.125 in. thick. Using this information, the volume of metal for each box was computed individually. (The Individual Waste Container Sheets provide specific dimensional information.)

C.1.1.4 Stainless Steel Tube

These tubes are 6-in. in diam with an undetermined length; subsequently, volume calculations were not made for these containers. The Individual Waste Container Sheets provide more detailed dimensional information when available.

C.1.1.5 Fifty-five-Gallon Drum

Dimensions:

$$D = 24 \text{ in.}$$
$$H = 34 \text{ in.}$$
$$T = 0.125 \text{ in.}$$
$$V_I \sim 55 \text{ gal} = 7.36 \text{ ft}^3.$$

Volume of metal:

$$V_{TOP} = \pi \times T \times (D/2)^2$$
$$= 56.5 \text{ in.}^3$$
$$= 0.0327 \text{ ft}^3$$

$$V_{SIDE} = \pi \times D \times H \times T$$
$$= 320 \text{ in.}^3$$
$$= 0.185 \text{ ft}^3$$

$$V_C = (2 \times V_{TOP}) + V_{SIDE}$$
$$= (2 \times 0.0327) + 0.185$$
$$= 0.25 \text{ ft}^3.$$

C.1.2 Waste Packages

C.1.2.1 One-Gallon Paint Can

Dimensions:

$$D = 6.5 \text{ in.}$$
$$H = 7.375 \text{ in.}$$
$$V_I \sim 1 \text{ gal} = 0.13 \text{ ft}^3.$$

Assume compaction:

$$H_C = 1 \text{ in.}$$

Volume of metal:

$$V_C = \pi \times H_C \times (D/2)^2$$
$$= 33.2 \text{ in.}^3$$
$$= 0.0192 \text{ ft}^3.$$

C.1.2.2 Polyethylene Bucket

Dimensions:

$$D = 10.5 \text{ in.}$$
$$H = 10 \text{ in.}$$
$$V_I = 3.4 \text{ gal} = 0.45 \text{ ft}^3.$$

Volume of polyethylene:

$$M = 728 \text{ g.}$$
$$D_E = 0.953 \text{ g/cm}^3.$$

$$V_C = M/D_E$$
$$= 763 \text{ cm}^3$$
$$= 46.6 \text{ in.}^3$$
$$= 0.027 \text{ ft}^3.$$

C.1.2.3 Polyethylene Bag

Dimensions:

$$D = 23 \text{ in.}$$
$$H = 36 \text{ in.}$$
$$V_I = 59.2 \text{ gal} = 7.92 \text{ ft}^3.$$

C.1.2.4 Bain-Marie Container

Dimensions:

D = 8 in.
H = 7 in.
$V_I \sim$ 2 gal = 0.27 ft^3.

Volume of plastic in container:

M = 485 g.
D_E = 0.953 g/cm^3.

$$V_C = M/D_E = 509 \text{ cm}^3 = 31 \text{ in.}^3 = 0.018 \text{ ft}^3.$$

C.1.2.5 Five-Gallon Lard Can

Dimensions:

D = 11 in.
H = 12 in.
$V_I \sim$ 5 gal = 0.67 ft^3.

Assume compaction:

H_C = 1.5 in.

Volume of metal:

$$V_C = \pi \times H_C \times (D/2)^2 = 140 \text{ in.}^3 = 0.081 \text{ ft}^3.$$

C.1.2.6 Thirty-Gallon Drum

Dimensions:

D = 18 in.
H = 30 in.
T = 0.125 in.
$V_I \sim$ 30 gal = 4 ft^3.

Volume of metal:

$$V_{TOP} = \pi \times T \times (D/2)^2 = 31.8 \text{ in.}^3 = 0.02 \text{ ft}^3$$

$$V_{SIDE} = \pi \times D \times H \times T = 224 \text{ in.}^3 = 0.13 \text{ ft}^3$$

$$V_C = (2 \times V_{TOP}) + V_{SIDE} = (2 \times 0.02) + 0.13 = 0.17 \text{ ft}^3.$$

C.1.2.7 General Glove-Box Waste Package

Little secondary data exist for formulating volume calculations for these waste packages. Unless otherwise specified on the Individual Waste Container Sheets, typical glove-box dimensions, based on conversations with operators of generators, are assumed as follows:

External dimensions:

H = 6 ft.
L = 3 ft.
W = 3 ft.

Estimated volumes:

Volume of metal = 3 ft^3.
Volume of glass = 0.1 ft^3.
Volume of paper = 0.1 ft^3.

C.1.2.8 Fifty-five-Gallon Drum

Dimensions:

D = 24 in.
H = 34 in.
T = 0.125 in.
$V_I \sim$ 55 gal = 7.36 ft^3.

Volume of metal:

$$V_{TOP} = \pi \times T \times (D/2)^2 = 56.5 \text{ in.}^3 = 0.0327 \text{ ft}^3$$

$$V_{SIDE} = \pi \times D \times H \times T = 320 \text{ in.}^3 = 0.185 \text{ ft}^3$$

$$V_C = (2 \times V_{TOP}) + V_{SIDE} = (2 \times 0.0327) + 0.185 = 0.25 \text{ ft}^3.$$

C.1.2.9 Ten-Gallon Fiber Drum

Dimensions:

D = 13 in.
H = 19 in.
T = 0.125 in.
$V_I \sim$ 10 gal = 1.34 ft^3.

Assume compaction:

H_C = 3 in.

Volume of paper:

$$V_C = \pi \times H_C \times (D/2)^2$$
$$= 398 \text{ in.}^3$$
$$= 0.23 \text{ ft}^3.$$

C.2 VOID VOLUME CALCULATIONS

6-in.-thick-wall casks:

- Assume cask holds 62 buckets
- Neglect volume of bags
- Calculate void between buckets and cask

  Internal volume of cask = 58 ft^3.
  Volume of one bucket = 3.4 gal = 0.4545 ft^3.
  Volume of buckets = 62 × 0.4545 ft^3 = 28 ft^3.
  Void volume = 58 ft^3 − 28 ft^3 = 30 ft^3.

- Neglect packaging between can and bucket
- Calculate void volume between can and bucket

  Volume of bucket = 3.4 gal = 0.4545 ft^3.
  Volume of can = 1 gal = 0.1337 ft^3.

  Void volume = 0.4545 ft^3 − 0.1337 ft^3
  = 0.3208 ft^3.
  Total void volume = 62 × 0.3208 ft^3 = 19.9 ft^3.

- Assume void volume between buckets and cask can be eliminated
- Assume proportional calculations for 4.5-in.-thick-wall and 12-in.-thick-wall casks

Appendix D

DATABASE STRUCTURE

APPENDIX D. DATABASE STRUCTURE

The database structure created for the RH TRU Solid Waste Characterization Report has been divided into five primary sections: origin, storage, isotopic data, physical content, and general comments. All sections (except general comments) contain subsections, or fields. A field provides specific data with respect to its section; subsequently, the field heading in conjunction with its section heading provides a method of labeling, in detail, the data for each entry in the database.

D.1 ORIGIN

This section of the database contains five fields which describe where and when each waste container was generated. An example of this section of the database is given below:

DOCNO	ATTNO	DATE	GEN	CRT
41691	1307	09/22/76	7930	N
41692	1308	09/17/76	3508	N
41693	1321	09/22/76	3019	N
41694	1313	10/05/76	7920	N
41694	1313	10/05/76	7920	N
41695	1314	10/05/76	7920	N
41695	1314	10/05/76	7920	N
41696	1315	10/05/76	7920	N
41696	1315	10/05/76	7920	N

Multiple records are entered for certain waste containers (see DOCNO = 41694, 41695, or 41696) because these waste containers are represented by more than one radioisotope. Waste characterization information, however, is entered only on the first line for these multiple isotope waste containers, and all other entries in the record are blank (for clarity, the examples given do not have blanks). All information for this section (except for the certification information) was down-loaded from the SWIMS database. Database entries shown as "– – –" for a particular field in this section indicate that this specific information is unavailable.

D.1.1 Document Number

The document number is a unique number assigned to each waste container by ORNL Waste Operations for quality control. It is the primary information that Waste Operations uses to identify a waste container. In the database, document numbers are entered in the DOCNO field.

D.1.2 Attention Number

The attention number (ATTNO) is a unique number assigned to each waste container by ORNL Waste Disposal personnel. It is the primary information used by Waste Disposal personnel to identify a waste container. In the database, ATTNOs are entered in the ATTNO field.

D.1.3 Storage Date

The storage date is the date on which a waste container was received at the burial ground. In the database, the storage dates are entered in the DATE field.

D.1.4 Generator

The generator is the building where a waste container originated or was produced. In the database, the generators are entered in the GEN field. This field will contain either a building number or an acronym.

D.1.5 Certification

The certification field is intended to show whether a waste container has been certified according to ORNL procedures. (Certification did not begin until 1988.) In the database, certification information (Y or N) is entered in the CRT field.

D.2 STORAGE

This section of the database contains three fields that describe where each waste container is stored. An example of this section of the database (same records of the database that were referenced in the section on origin) is given below:

TYP	R/B	LOCATN
3	R	T 12
9	B	T 16
3	R	T 12
3	R	T 12
3	R	T 12
3	R	T 12
3	R	T 12
4	R	T 10
4	R	T 10

All information for this section was down-loaded from the SWIMS database for the location information.

D.2.1 Type

Several different containers have been used to store solid RH TRU waste materials generated at ORNL. This field is intended to show (by container-type number) what type of container is used to store each waste container. These container types are listed below:

- Container Type 3: 4.5-in.-thick-wall concrete cask
- Container Type 4: 6-in.-thick-wall concrete cask
- Container Type 5: 12-in.-thick-wall concrete cask
- Container Type 6: 55-gal CS drum
- Container Type 8: Wooden box
- Container Type 9: Other. (Many of these containers have been described on the UCN-2822 forms as 6-in.-diam SST tubes.)
- Container Type 14: Shielded carrier

These container-type classifications come directly from the UCN-2822 forms and can be found on that form for any waste container generated in the future. Furthermore, if other containers are used to store future RH TRU waste, the classification for those other containers can be found on the UCN-2822 form, and the appropriate container-type number can be entered in the database. Container-type information for each waste container is entered in the TYP field.

D.2.2 Retrievability

Some waste containers in SWSA 5 are stored in a nonretrievable manner; subsequently, it is not expected that WHPP will process this waste. To show the retrievability of a waste container, a field was created to reflect the status of the container, either retrievable or buried. In the database, the retrievability of each waste container (R for retrievable or B for buried) is entered in the R/B field.

D.2.3 Location

The primary location for the RH TRU solid waste that this report addresses is SWSA 5 North. At SWSA 5 North, three different techniques or storage modes are used to store solid waste (see Sect. 6.4). In the database, storage location information is entered in the LOCATN field.

D.2.3.1 TRU Storage Trenches

Currently, 27 trenches for RH TRU solid waste are located in SWSA 5 North. Each trench is identified by a trench number (a number from 1 to 27) that determines the trench location. A trench can contain several waste containers of varying types. In the LOCATN field of the database, a trench is designated by the letter "T" followed by the trench number.

D.2.3.2 RH TRU Storage Bunker

The RH TRU Storage Bunker is a facility located in SWSA 5 North that is designed to store RH TRU waste containers in an above-ground, retrievable manner. Currently, 84 concrete casks are stored in the RH TRU Storage Bunker, which has a capacity of 108 casks. In the LOCATN field of the database, the bunker is designated by its building number, 7855.

D.2.3.3 Storage Vaults

Solid waste in container types 9 and 14 is currently stored retrievably in storage vaults at both SWSA 5 North and SWSA 5 South. Eight storage vaults are at SWSA 5 North, and two vaults are at SWSA 5 South. Each vault is identified by a vault number that determines the vault location. In the LOCATN field of the database, vaults are designated by a vault number preceded either by the letter "W" for containers in SWSA 5 North or by the letters "SSW" for containers in SWSA 5 South.

D.3 ISOTOPIC DATA

This section of the database contains six fields which describe the radioisotopic content and radiation level of each waste container. An example of this section of the database (same records of the database that were referenced in the section on origin) is given below:

ISOTOPE	CURIES	ALPHA	SRFRD	UNSHD	NEUT
CF-252	.11	.11	5	500	500
PU-239	.02	.02	0	0	5
CM-244	.00	.00	520		10
CF-252	.11	.11	20		5
CM-244	.46	.46	20		
CF-252	.11	.11	55		15
CM-244	.46	.46	55		
CF-252	.11	.11	290		40
CM-244	.46	.46	290		

All information in this section was down-loaded from the SWIMS database, except for the unshielded radiation and neutron-reading information. An empty field in this section indicates that the information is unavailable or not applicable.

D.3.1 Isotope

This field contains the radioisotopes present in each waste container. In some waste containers, more than one radioisotope may be present; thus, such waste containers will have multiple entries in the ISOTOPE field. If the isotope in a waste container is unidentified, "UNID" will be in the ISOTOPE field. In the database, radioisotopes are entered in the ISOTOPE field.

D.3.2 Curies

This field contains the amount of curies of each radioisotope in a waste container. Since only two decimal places are shown, an entry of ".00" represents a quantity of less than 10^{-2} (refer to Individual Waste Container Sheets for more accurate quantities). In the database, curie amounts are entered in the CURIES field.

D.3.3 Alpha Radiation

This field contains the amount of alpha radiation emitted from the waste container at the time of disposal. Since only two decimal places are shown, an entry of ".00" represents a quantity of less than 10^{-2} (refer to Individual Waste Container Sheets for more accurate quantities). The units for the alpha radiation are curies. In the database, alpha radiation numbers are entered in the ALPHA field.

D.3.4 Surface Radiation

This field contains the amount of surface radiation detected from each waste container at the time of disposal. The units for surface radiation are mrem/h. In the database, surface radiation measurements are entered in the SRFRD field.

D.3.5 Unshielded Radiation

This field contains radiation measurements on the unshielded waste container at the time of disposal. The units for unshielded radiation measurements are mrem/h. In the database, unshielded radiation measurements are entered in the UNSHD field.

D.3.6 Neutron Radiation

This field contains measurements of radiation resulting from neutron radiation on the waste container at the time of disposal. The units for neutron radiation measurement are mrem/h. In the database, neutron radiation measurements are entered in the NEUT field.

D.4 PHYSICAL CONTENT

This section of the database contains 12 fields that describe the physical content of each waste

container. An example of this section of the database (same records of the database that were referenced in the section on origin) is given below:

GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLTR	EQP	RCRA	WAC	OTHER
.5	13.5	.5	.8	.1				1	Hg		
.4	16.7	17.0	6.0	17.0					Pb		Wood
.3	2.0	.6	3.5	.1	14				Pb		Carbon
.8	2.4	2.4	8.0	1.6	2						Wood
1.3	8.6	3.8	12.5	2.5	60						Wood
2.1	3.9	.0	8.8	1.7	65	63	1		Pb		

All information in this section was entered manually and is based on secondary data and the assumptions defined in Sect. 4 of this report. An empty field indicates that the information for that field is not applicable.

D.4.1 Glass

This field contains the volume of glass material in each waste container. The units for this field are in cubic feet. In the database, this volume is entered in the GLASS field.

D.4.2 Metal

This field contains the volume of metal material in each waste container. The units for this field are in cubic feet. In the database, this volume is entered in the METAL field.

D.4.3 Paper

This field contains the volume of paper material in each waste container. The units for this field are in cubic feet. In the database, this volume is entered in the PAPER field.

D.4.4 Plastic

This field contains the volume of plastic material in each waste container. The units for this field are in cubic feet. In the database, this volume is entered in the PLSTC field.

D.4.5 Cloth

This field contains the volume of cloth material in each waste container. The units for this field are cubic feet. In the database, this volume is entered in the CLOTH field.

D.4.6 Can

This field contains the quantity of 1-gal metal paint cans in each waste container. Thirty-gallon and 55-gal waste drums are not considered cans. In the database, this quantity is entered in the CANS field.

D.4.7 Bucket

This field contains the quantity of plastic buckets (polyethylene buckets and Bain-Marie buckets) in each waste container. In the database, this quantity is entered in the BCKTS field.

D.4.8 Filter

This field contains the quantity of filters (all types) in each waste container. In the database, this quantity is entered in the FLTR field.

D.4.9 Equipment

This field contains the quantity of equipment (processing racks, vacuum pumps, furnaces, titrators, centrifuges, etc.) in each waste container. Glove boxes are not considered equipment. More detailed information regarding the entries in this field can be found in the comments section (refer to Sect. D.5). In the database, this quantity is entered in the EQP field.

D.4.10 Resource Conservation and Recovery Act Materials

The RCRA regulates the management of hazardous waste materials from generation to

disposal. The definition of a hazardous material (RCRA) is summarized below:

> Any waste material classified as a solid waste under 40 CFR 261.2 and which exhibits any of the characteristics defined under 40 CFR 261.20–40 CFR 261.24 (defines limits on ignitability, corrosivity, reactivity, and EP toxicity) or is classified hazardous under 40 CFR Pt. 261.30–261.33 is considered hazardous under RCRA.

To characterize this waste, the only RCRA materials that will be found in RH TRU waste will be mercury, lead, and oil, and these materials are specified by "Pb," "Hg," and "Oil," respectively. In the database, RCRA material information is entered in the RCRA field.

D.4.11 Waste Acceptance Criteria

This field identifies material in the waste container which does not meet WIPP WAC. To characterize the waste, the only parameters established in the WIPP WAC that will be identified in this field pertain to gas-generating materials, particulates, free liquids, sludges, organic materials, compressed gases, radioactive mixed wastes, and pyrophoric materials. In the database, these materials will be identified in the WAC field.

D.4.12 Other

This field contains information on specific materials present in a particular waste container that are not accounted for in other fields. Typical entries in this field include wood, carbon, and actual californium. In the database, these other materials will be identified in the OTHER field.

D.5 COMMENTS

This section of the database contains a single field that contains a short description of the waste container. An example of this section of the database (same records of the database that were referenced in the section on origin) is given below:

COMMENTS

Processing/column equipment rack; 28 μg ^{252}Cf

One ATTNO is assigned to four boxes -- three metal glove boxes, one plastic

Misc. waste (approx. 25 lead pigs, 1000 carbon electrodes); 1 g material

Floor cask (contains misc. waste packaged in 24 fiber drums)

Floor cask (all waste packaged in sixty 5-gal lard cans)

General cell waste (possible lead); two additional lard cans

Often, this field is used to explain unusual types of packaging or to further explain any materials identified in the RCRA, WAC, or OTHER fields of the database. The information in this field will supplement the description paragraph on the Individual Waste Container Sheets. In the database, general comments are entered in the COMMENTS field.

Appendix E

ORNL REMOTE-HANDLED TRANSURANIC SOLID WASTE DATABASE

SOLID RH TRU WASTE STORAGE

ORIGIN			STORAGE					ISOTOPIC DATA					PHYSICAL CONTENTS											COMMENTS AND ADDITIONAL NOTES
													VOLUME (ft³)							QUANTITY				
DECNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	GRFRAD	UNSHR	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BOXTS	FLT	EQP	FORM	MAC	OTHER	COMMENT
25333	---	01/15/70	7920	N	4	B	T 128	CM-244			450			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
25386	---	01/26/70	7920	N	4	B	T 128	CM-244	.00		500			.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-5 (lead bricks used to balance rack)
25483	---	02/12/70	7920	N	4	B	T 128	CM-244			1000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
25922	---	06/22/70	7920	N	4	B	T 168	CM-244			3000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
25956	---	06/29/70	7920	N	4	B	T 165	CM-244	.00		2000			.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-7 (lead bricks used to balance rack)
26007	---	07/10/70	7920	N	4	B	T 166	CM-244	.00		670			.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-6 (lead bricks used to balance rack)
26049	---	07/17/70	7920	N	3	B	T 168	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
26380	---	09/04/70	7920	N	3	B	T 168	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
26386	---	09/04/70	7920	N	3	B	T 168	CM-244			25			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
26417	---	09/11/70	7920	N	4	B	T 168	CM-244			650			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
26453	---	09/15/70	7920	N	4	B	T 169	CM-244	.00		190		25	.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-4 (lead bricks used to balance rack)
26497	---	09/24/70	7920	N	4	B	T 168	CM-244			110			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
26549	---	09/30/70	7920	N	3	B	T 169	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
26601	---	10/09/70	7920	N	4	B	T 168	CM-244			9000		1000	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
26602	---	10/09/70	7920	N	3	B	T 169	CM-244			10			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
26700	---	10/28/70	7920	N	4	B	T 168	CM-244			200			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
35330	1691	09/03/75	7920	N	3	R	T 7	CF-252	.05	.05	70	130	25	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask waste in fiber drums; includes 8 threshold detector units
35331	1692	09/03/75	7920	N	3	R	T 8	CF-252	.05	.05	40		20	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
35358	1693	09/04/75	7920	N	4	R	T 9	CF-252	.05	.05	600		200	2.0	3.5	.1	8.3	1.6	62	60	1		Pb		Wood	Generic cell waste (possible lead); possible misc. equipment
35414	1117	09/22/75	7920	N	4	R	T 9	CF-252	.05	.05	370		250	1.9	3.4	.0	8.0	1.5	60	60	1		Pb			Generic cell waste (possible lead)
35415	1118	09/22/75	7920	N	3	R	T 8	CF-252	.01	.01	55		50	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
35654	---	11/10/75	7920	N	3	R	T 7	CM-244						1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
37601	1476	04/25/77	3019	N	3	R	T 18	U-233	1.61	1.58	15	120		.1	3.0	.1	.8	.0			1					A 55 gal drum; HEPA filter (6" long, 6" dia.) from S-20 dissolver
37669	1369	04/25/77	7920	N	3	R	T 15	CF-252	.18	.17	22	1000	12	1.2	3.6	3.6	12.0	2.4	58						Wood	Floor cask (all waste packaged in 58 five-gallon lard cans)
								CM-244	.82	.82	22															
37670	1370	04/26/77	7920	N	4	R	T 15	CF-252	.18	.17	1100		900	2.0	3.6	.0	8.4	1.6	63	63	1		Pb		Cm-Cf	Generic cell waste; 2822 form specifies a bottle of low grade Cm,Cf
								CM-244	.82	.82	1100															
37671	1376	04/26/77	7920	N	3	R	T 18	CF-252	.18	.17	7		5	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.62	.82	7															
37679	1371	04/28/77	7920	N	5	R	T 18	CF-252	.18	.17	1750		750	.7	1.3	.0	3.0	.6	31		2	2	Pb			Misc. high level waste (31 paint cans, 3 plastic bags; filters, equip.)
								CM-244	.82	.82	1750															
37792	1025	04/28/75	4507	N	6	R	T 16	CM-244	.10	.10	600	20000	5	.7	19.2	.0	4.0	2.4					Pb		Wood	Miscellaneous waste (packaged in six 55 gal drums, wood box, metal box)
37800	1383	06/30/77	7920	N	3	R	T 19	CF-252	.18	.17	10		5	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.82	.82	10															
37801	1384	06/30/77	7920	N	3	R	T 18	CF-252	.18	.17	40		30	1.3	3.7	3.7	12.4	2.5	60						Wood	Floor cask (all waste packaged in 60 five-gallon lard cans)
								CM-244	.82	.82	40															
37972	1386	07/21/77	7920	N	4	R	T 18	CF-252	.18	.17	3400	50000	2500	3.9	6.9	.0	16.2	3.0	65		1		Pb			Generic cell waste (packaged in large plastic bags)
								CM-244	.62	.82	3400															
37989	922	09/20/74	7930	N	8	R	T 4	CF-252	.16	.18				.1	5.7	.1	1.0	.0							Wood	Glove box plus miscellaneous waste (possible lead)
38013	878-1	01/28/71	3019	N	8	R	T 11	PU-239						.1	5.0	.1	1.0	.0							Wood	Glove box plus miscellaneous waste (possible lead)
								U-235	.00	.00																
38102	56	11/18/70	7920	N	8	R	T 11	CM-244	1.00	1.00		10		.1	5.7	.1	1.0	.0					Pb		Wood	Glove box plus miscellaneous waste (packaged with ATN 58)
38103	58	11/18/70	7920	N	8	R	T 11	CM-244	1.00	1.00		10		.1	5.7	.1	1.0	.0					Pb		Wood	Glove box plus miscellaneous waste (packaged with ATN 56)
38104	878-2	01/28/71	3019	N	8	R	T 11	PU-239	2.64	2.59				.2	6.8	.2	2.0	.0							Wood	Two glove boxes plus miscellaneous waste
38105	878-3	01/28/71	3019	N	8	R	T 11	UNID	125.00					.3	9.0	.3	3.0	.0							Wood	Three glove boxes plus miscellaneous waste
38106	130-1	04/22/71	3508	N	8	R	T 11	UNID	.30					.1	4.2	.1	1.0	.0					Pb		Wood	One 3' glove box packaged in wood and then in metal
38107	130-2	04/22/71	3508	N	8	R	T 11	UNID	.30					.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
38108	130-3	04/22/71	3508	N	8	R	T 11	UNID	.30					.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
38109	770	10/23/73	7920	N	4	R	T 3	CF-252	.16	.16	375	10000	175	1.9	3.4	.0	8.0	1.5	60	60	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	375															
38110	1130	09/29/75	4507	N	8	R	T 11	CM-244	.00	.00				.7	19.2	.0	4.0	2.4					Pb		Wood	Miscellaneous waste (packaged in six 55 gal drums, wood box, metal box)
38111	1166	12/09/75	3508	N	8	R	T 16	PU-239	1.00	.98				.0	15.7	2.4	4.8	2.4			1		Pb		Wood	Vacuum off gas header, hot drain lines, surge pots, filter box, catch tank
38112	1156	12/09/75	4507	N	8	R	T 16	CM-244	.00	.00				.5	22.4	.7	1.0	.7					Pb		Wood	Box half filled with 3508 waste (see doc. # 38111), and 4507 waste
38113	1400	08/30/77	3121	N	4	R	T 18	UNID	.00		1	3	1	.0	16.0	1.0	1.0	2.0			4				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
38230	1506	09/01/77	7920	N	3	R	T 18	CF-252	.18	.17	250		200	1.3	3.7	3.7	12.4	2.5	60						Wood	Floor cask (all waste packaged in 60 five-gallon lard cans)

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE				ISOTOPIC DATA						PHYSICAL CONTENTS														COMMENTS AND ADDITIONAL NOTES
														VOLUME (ft³)												QUANTITY		
DOCNO	ATTNO	DATE	GEN	CRTI	TYP	STA	LOCATN	ISOTOPE	CURIES	ALPHA	GRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EGP	RORA	WAC	OTHER	COMMENT
								CM-244	.82	.82	250															
38231	1509	09/01/77	7920	N	3	R	T 19	CF-252	.18	.17	25		7	.6	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.82	.82	25															
38232	1506	09/02/77	3121	N	4	R	T 19	U-233	.00	.00	1			.0	16.0	1.0	1.0	2.0			4				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
38233	1507	09/09/77	7920	N	3	R	T 19	CF-252	.18	.17	31		5	.3	2.5	2.5	8.3	1.6	2						Wood	Floor cask (contains misc. waste packaged in 25 fiber drums)
								CM-244	.82	.82	31															
38460	1516	10/11/77	7920	N	3	R	T 19	CF-252	.18	.17	14	100	4	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.82	.82	14															
38461	1515	10/11/77	7920	N	4	R	T 19	CF-252	.18	.17	400	5000	400	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.82	.82	400															
38614	1536	11/30/77	7920	N	3	R	T 19	CM-244	.82	.82	55	500	20	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
38615	1535	11/30/77	7920	N	4	R	T 19	CM-244	.82	.82	850	5000	500	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
38662	1545	12/27/77	7920	N	3	R	T 20	CF-252	.18	.17	3	1	3	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
38945	1561	02/10/78	7920	N	4	R	T 20	CF-252	.34	.34	600	350	800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.23	.23	800															
39054	1568	03/01/78	7920	N	5	R	T 20	CF-252	.17	.17	650	10000	250	.7	1.2	.0	2.8	.5	21	21	1		Pb			Generic cell waste (possible lead)
39180	1578	03/21/78	7920	N	4	R	T 20	CF-252	.17	.17	90		225	2.0	3.6	.0	8.4	1.6	61	61	4		Pb			Generic cell waste (possible lead); two bags of M&C waste
								CM-244	.12	.12	90															
39181	1581	03/23/78	7920	N	4	R	T 21	CF-252	.30	.30	1000		1300	3.9	6.9	.0	16.2	3.0	65		1	1				Generic cell waste (packaged in large plastic bags); vacuum pump
39195	1593	04/21/78	7920	N	3	R	T 22	CF-252	.17	.17	12		30	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39323	1086	08/07/75	3019	N	3	R	T 6	PU-238	.02	.02				.0	28.5	.0	1.5					1	Oil	Oil		Vacuum pump (3 cu. ft.), surge pots, SS tubing; Pump contains oil
39324	1800	05/02/78	7920	N	3	R	T 22	CF-252	.17	.17	5		2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39502	1342	12/20/76	7920	N	3	R	T 15	CF-252	.11	.11	70		50	1.3	3.8	3.8	12.5	2.5	59						Wood	Floor cask waste (packaged in 59 five gallon lard cans)
								CM-244	.46	.46	70															
39654	522	07/05/72	7920	N	4	R	T 1	CM-244	.45	.45	200	30000	300	3.9	6.9	.0	16.2	3.0	65			1	Pb			Ultra-sonic cleaner plus generic cell waste in bags
39978	2	10/06/70	7920	N	4	B	T 188	CM-244	1.00	1.00	5			2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
								PU-239			5															
39979	3	10/11/70	7920	N	4	B	T 188	CM-244	1.00	1.00	5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								PU-239			5															
39980	5	11/06/70	7920	N	3	B	T 188	CM-244	1.00	1.00	5		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39981	7	11/09/70	3019	N	4	R	T 2	CM-244	.00	.00	5	60		.2	1.7	.6	3.2	.1	14				Pb			CarbonMisc. waste (approx. 25 lead pigs, 1000 Carbon electrodes)
								PU-239			5															
39982	9	11/19/70	7920	N	3	B	T 188	CM-244	1.00	1.00	5	100	1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39983	10	11/20/70	7920	N	4	B	T 188	CM-244	1.00	1.00	1000	20000	100	2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
39984	12	11/20/70	7920	N	3	B	T 189	CM-244	1.00	1.00	40	500		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39985	13	12/28/70	7920	N	3	B	T 189	CF-252	1.50	1.49	5		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	1.00	1.00	5															
39986	17	12/11/70	7920	N	3	B	T 188	CF-252	1.50	1.49	2700			.1	1.4	.1	2.8	.2				2	Hg			Two 30 gal black iron
								CM-244	1.00	1.00	2700															
39987	26	01/11/71	7920	N	3	B	T 188	CM-244	.25	.25	6000	4.0E+6	100	2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
								CS-137	.01		6000															
39988	26-1	01/15/71	7920	N	3	B	T 188	CM-244			6		30	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39989	28-2	01/15/71	7920	N	3	B	T 188	CM-244			6		30	2.0	3.6		8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
39990	29	01/18/71	7920	N	3	B	T 188	CF-252	.17	.17	3	10000	1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.25	.25	3															
39991	33	01/22/71	3525	N	4	B	T 188	AM-241	.00		300			.0	6.0	.8	.8	.4				Misc				Misc. small in-cell equipment, tools, clean-up materials, etc.
								CF-252	.01	.01	300															
								CM-244	.00	.00	300															
39993	38	02/01/71	7920	N	3	B	T 188	CM-244	.25	.25	20			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
39994	40	02/02/71	7920	N	4	B	T 188	CF-252	.17	.17	1500		700	2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
								CM-244	.25	.25	1500															
39995	52	02/24/71	7920	N	4	B	T 188	CM-244	.25	.25	2100	30000		2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
39996	49	02/23/71	7920	N	4	B	T 188	AM-241	.00		10	100		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.25	.25	10															
39997	49	02/23/71	7920	N	4	B	T 188	AM-241	.00		10	100		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE				ISOTOPIC DATA					PHYSICAL CONTENTS												COMMENTS AND ADDITIONAL NOTES
													VOLUME (ft³)								QUANTITY				
DOCNO	RTNG DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	GRRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	RCRA	MAC	OTHER	COMMENT
							CM-242	.25	.25	10															
39998	54 02/26/71	7920	N	4	B	T 188	CM-244	.25	.25	2000	2.5E+6	50	2.0	3.6	.0	8.4	1.6	63	63			Pb			Generic cell waste (possible lead)
39999	59 02/02/71	7920	N	4	B	T 188	CF-252	.17	.17	10		10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.25	.25	10															
40000	61 03/08/71	7920	N	3	B	T 188	AM-243			5		3	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.25	.25	5															
40002	67 03/11/71	7920	N	4	B	T 188	AM-241	3.24	3.21	2000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
							CF-252	.17	.17	2000															
40003	70 03/22/71	7920	N	4	B	T 188	CM-244	.25	.25	510			.5	17.5	.1	.6	.1				1	Pb			Processing Rack RR-7 (lead bricks used to balance rack)
40004	79 04/02/71	3525	N	4	B	T 188	PU-239	.31	.30	25			.0	10.0	1.5	1.0	1.0			4					Two HEPA filters, two Pre-filters, coveralls, gloves, etc.
40005	81 04/06/71	3525	N	4	R	T 1	PU-239	.31	.30	400			.0	5.3	.7	.7	.3			4					Two HEPA filters, two Pre-filters, coveralls, gloves, etc.
40006	79 04/06/71	7920	N	4	B	T 188	CF-252	.17	.17	15			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.25	.25	15															
40007	83 04/06/71	7920	N	4	B	T 196	CF-252	.17	.17	825		500	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
							CM-244	.25	.25	825															
40008	85 04/15/71	7920	N	3	B	T 188	CF-252	.17	.17	10	1000		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.25	.25	10															
40011	87 04/19/71	7920	N	4	B	T 188	CF-252	.17	.17	1000	20000	10	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead); could be floor cask
							CM-244	.25	.25	1000															
40012	93 05/04/71	7920	N	6	R	T 11	PU-239				100		.1	5.7	.1	1.0	.0					Pb		Wood	Glove box plus miscellaneous waste (possible lead)
40013	95 05/07/71	7920	N	4	B	T 188	CF-252	.17	.17	1000	30000	750	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
							CM-244	.25	.25	1000															
40014	96 05/07/71	7920	N	3	B	T 188	CF-252	.17	.17	35	1000	2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.25	.25	35															
40015	427 06/19/72	7920	N	4	R	T 1	CM-244	.45	.45	200		500	1.6	3.3	.0	8.2	1.5	53	58			Pb		Wood	Generic cell waste (possible lead); tent consists of wood and plastic
40016	466 06/19/72	7920	N	3	R	T 1	CM-244	.45	.43	100		25	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40017	525 07/11/72	7920	N	3	R	T 1	CM-244	.45	.45	8		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40018	532 07/25/72	7920	N	3	R	T 1	CM-244	.45	.45	15	1000	15	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40019	554 08/11/72	7920	N	4	R	T 1	CF-252	.22	.22	600	5000	600	2.2	3.9	.0	9.1	1.7	63	49			Pb			Generic cell waste (possible lead)
							CM-244	.45	.45	600															
40020	560 09/19/72	7920	N	3	R	T 1	CF-252	.22	.22	10	3000		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.45	.45	10															
40021	564 09/21/72	7920	N	3	R	T 1	CF-252	.22	.22	8		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.45	.45	8															
40022	583 09/26/72	7920	N	3	R	T 1	CM-244	.45	.45	4		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40023	587 09/29/72	7920	N	4	R	T 1	CF-252	.22	.22	250	7000	120	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
							CM-244	.45	.45	250															
40024	566 10/02/72	3028	N	6	R	T 17	CM-244	.00	.00				.5	10.7	.1	1.0	.1				1	Pb	Oil	Wood	Cf,Cm evaporation glove box (vacuum pump contains oil; lead pigs)
40025	569 10/02/72	3028	N	6	R	T 17	CM-244	.00	.00				.5	10.7	.1	1.0	.1				1	Pb	Oil	Wood	Cf,Cm evaporation glove box (vacuum pump contains oil; lead pigs)
							PU-239																		
40026	570 10/02/72	3028	N	6	R	T 17	PU-238	.00	.00				.5	10.7	.1	1.0	.1				1	Pb	Oil	Wood	Cf,Cm evaporation glove box (vacuum pump contains oil; lead pigs)
							PU-239																		
							PU-240																		
40027	571 10/02/72	7920	N	3	R	T 1	CM-244	.45	.45	1		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40029	597 10/05/72	7920	N	3	R	T 1	CF-252	.22	.22	2000	25000	125	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
							CM-244	.45	.45	2000															
40030	590 10/05/72	7920	N	4	R	T 1	CM-244	.45	.45	160	10000	5	2.0	3.6	.0	8.4	1.6	62	62	1		Pb			Generic cell waste (possible lead)
40031	591 10/06/72	3525	N	14	R	W 4	PU-239	6.45	6.32	1															Unknown contents (probable nuclear fuel materials)
							U-235	.00	.00	1															
							U-238	.00	.00	1															
40032	607 10/16/72	3525	N	9	R	W 4	PU-239	5.83	5.42																Unknown contents (6" SS can of approx. 610 g of nuclear fuel material)
							U-235	.00	.00																
							U-238	.00	.00																
40033	610 10/25/72	7920	N	3	R	T 1	CM-244	.45	.45	10	1000	1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40034	612 11/01/72	3019	N	4	R		CF-252	.20	.20	50	10000	55	.2	2.0	.5	3.2	.1	14		1		Pb		Cardb.	Misc. waste (approx. 25 lead pigs, 1000 Carbon electrodes)

SOLID RM TRU WASTE STORAGE

ORIGIN				STORAGE				ISOTOPIC DATA					PHYSICAL CONTENTS												COMMENTS AND ADDITIONAL NOTES
													VOLUME (FT³)						QUANTITY						
DOCNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	GRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	RCRA	WAC	OTHER	COMMENT
								CM-244	.20	.20	30															
								CS-137	.10		50															
40035	614	11/09/72	7920	N	5	R	T 1	CF-252	.22	.22	850	40000	50	.7	1.2	.0	2.8	.5	21	21	1		Pb			Generic cell waste (possible lead)
								CM-244	.45	.45	850															
40036	621	11/17/72	7920	N	4	R	T 1	CM-244	.45	.45	400	100000	100	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40037	626	11/29/72	7920	N	3	R	T 1	CM-244	.45	.45	5		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40038	634	12/06/72	7930	N	4	R	T 2	CF-252	.22	.22	360		360	.1	1.4	.1	2.6	.2				3	Kg			One 30 gal black iron and one plastic bag of misc. waste
40039	636	12/06/72	7930	N	4	R	T 2	CF-252	.22	.22	800		800	.1	1.4	.1	2.6	.2				3	Kg			Two 30 gal black iron
40040	635	12/06/72	7930	N	4	R	T 2	CF-252	.22	.22	650		650	.1	1.4	.1	2.6	.2				3	Kg			Two 30 gal black iron
40041	640	12/13/72	3525	N	14	R	W 3	PU-239	.06	.06	1															Unknown contents (probable nuclear fuel materials); SNM 202-205
								U-235	.00	.00	1															
								U-238			1															
40042	641	12/18/72	7920	N	3	R	T 1	CF-252	.22	.22	3	10000	3	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.45	.45	3															
40043	642	12/18/72	7920	N	3	R	T 1	CF-252	.22	.22	8	10000	5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.45	.45	8															
40044	644	01/03/73	7920	N	4	R	T 1	CF-252	.16	.16	400	60000	15	2.0	3.6	.0	8.4	1.6	63	63	2		Pb			Generic cell waste (possible lead); more than one filter
								CM-244	.36	.36	400															
40045	645	01/03/73	7920	N	4	R	T 1	CF-252	.16	.16	10	200	5	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	10															
40046	646	01/15/73	7920	N	4	R	T 1	CF-252	.16	.16	250	10000	1000	2.0	3.6	.0	8.4	1.6	62	58	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	250															
40047	655	01/25/73	7920	N	4	R	T 2	CF-252	.16	.16	400	50000	500	2.0	3.6	.0	8.4	1.6	62	62	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	400															
40048	656	01/25/73	7920	N	3	R	T 2	CF-252	.16	.16	10	100	10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.36	.36	10															
40049	659	02/02/73	7920	N	5	R	T 2	CF-252	.16	.16	2000	100000	50								5					Cell waste includes hot filters; additional shielding inside 12" cask
								CM-244	.36	.36	2000															
40050	660	02/05/73	4508	N	9	R	W 1	UNID	438.00																	Unknown contents
40051	669	02/21/73	7920	N	4	R	T 2	CF-252	.16	.16	1400		800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	1400															
40052	672	02/28/73	7920	N	5	R	T 2	CF-252	.16	.16	500	20000	50	.7	1.2	.0	2.8	.5	21	21	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	500															
40053	675	03/06/73	7920	N	4	R	T 2	CF-252	.16	.16	200	20000	100	2.0	3.6	.0	8.4	1.6	7	7	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	200															
40054	676	03/06/73	7920	N	3	R	T 2	CF-252	.16	.16	15		30	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.36	.36	15															
40055	679	03/21/73	3033	N	6	R	T 11	CF-252	.00	.00			40	.5	7.7	.1	1.0	.1								Cf,Cs evaporation glove box (assume no pump inside)
								CM-244	.00	.00																
40056	685	03/28/73	7920	N	4	R	T 2	CF-252	.16	.16	400	40000	1000	2.0	3.6	.0	8.4	1.6	63	48			Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	400															
40057	686	03/30/73	3033	N	8	R	T 16	CF-252	.01	.01			85	.5	7.7	.1	1.0	.1								Cf,Cs evaporation glove box (assume no pump inside)
								PU-239																		
								PU-240	.24	.24																
40058	691	04/10/73	7920	N	5	R	T 2	CF-252	.16	.16	420	100000	150	.6	1.1	.0	2.5	.5	19	19			Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	420															
40059	689	04/10/73	7920	N	3	R	T 2	CF-252	.16	.16	35	4000	25	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.36	.36	35															
40060	690	04/10/73	7920	N	3	R	T 2	CF-252	.16	.16	10	3000	4	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.36	.36	10															
40061	695	04/26/73	7920	N	4	R	T 2	CF-252	.16	.16	800	20000	800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	800															
40062	700	05/21/73	7920	N	3	R	T 2	CM-244	.36	.36	35		50	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40063	701	05/21/73	7920	N	3	R	T 2	CM-244	.36	.36	5	10		1.5	4.5	4.5	15.0	3.0							Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40064	707	05/31/73	7920	N	4	R	T 2	CM-244	.36	.36	800		300	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE			ISOTOPIC DATA					PHYSICAL CONTENTS											COMMENTS AND ADDITIONAL NOTES
												VOLUME (ft³)					QUANTITY						
DOCNO	ATTNO	DATE	GEN	CAT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	GRRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	ROKA	WAC	OTHER	COMMENT
40065	710	06/06/73	7920	N	4	R	T 2	CF-252	.16	.16	1400	25000	1000	2.0	3.6	.0	8.4	1.6	62	58	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	1400															
40066	715	06/26/73	7920	N	3	R	T 2	CM-244	.36	.36	18	100	14	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40067	716	07/03/73	7920	N	3	R	T 2	CM-244	.36	.36	5		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40068	725	08/07/73	7920	N	3	R	T 3	CM-244	.36	.36	120		20	2.0	3.6	.0	8.4	1.6	35	35	1		Pb			Generic cell waste (34 poly buckets plus 3 bags misc. waste to fill cask)
40069	726	08/07/73	7920	N	3	R	T 3	CM-244	.36	.36	21	1000	1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40070	727	08/07/73	7920	N	4	R	T 3	CF-252	.16	.16	190	5000	150	2.0	3.6	.0	8.4	1.6	20	20	1		Pb			Generic cell waste (20 poly buckets plus 5 bags misc. waste to fill cask)
								CM-244	.36	.36	190															
40071	737	08/31/73	3028	N	8	R	T 17	AM-241	.00	.00		30		.0	2.7	.1	5.0	.1								Two plexiglas weighing boxes (possibly mixed up with ATN # 738 or 739)
								CM-244	.00	.00																
								NP-237																		
								PU-239																		
								PU-241	.00																	
								U-233																		
40072	738	08/31/73	3028	N	8	R	T 17	AM-241	.00	.00		30		.5	10.7	.1	1.0	.1				1	Pb	Oil	Wood	Cf,Ca evaporation glove box (possibly mixed up with ATN # 737 or 739)
								CM-244	.00	.00																
								NP-237																		
								PU-239																		
								PU-241	.00																	
								U-233																		
40073	739	08/31/73	3028	N	8	R	T 17	AM-241	.00	.00		30		.0	5.2	.1	.0	.1								One SS weighing box (possibly mixed up with ATN # 737 or 738)
								CM-244	.00	.00																
								PU-239																		
40074	755	09/26/73	7920	N	4	R	T 3	CF-252	.16	.16	600	10000	500	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	600															
40075	756	10/02/73	7920	N	3	R	T 3	CM-244	.36	.36	6	1000	1000	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40076	779	11/15/73	7920	N	3	R	T 3	CF-252	.16	.16	14		10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40077	781	12/05/73	7920	N	3	R	T 3	CF-252	.16	.16	600		300	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40078	783	12/13/73	7920	N	4	R	T 3	CF-252	.16	.16	1300	30000	750	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	1300															
40079	784	12/13/73	7920	N	3	R	T 3	CF-252	.16	.16	8		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40080	785	12/13/73	7920	N	3	R	T 3	CF-252	.16	.16	6		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40081	786	12/19/73	7920	N	5	R	T 3	CF-252	.16	.16	700	500000	300	.7	1.2	.0	2.8	.5	21	21	1		Pb			Generic cell waste (possible lead)
								CM-244	.36	.36	900															
40082	797	01/18/74	7920	N	3	R	T 3	CF-252	.18	.18	750	500000	250	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.50	.50	750															
40083	802	02/13/74	7920	N	4	R	T 3	AM-241	.00		6		2	1.7	3.1	.0	7.3	1.4	55	55	1		Pb			Generic cell waste (possible lead)
								CF-252	.18	.18	6															
								CM-244	.50	.50	6															
40084	796	02/14/74	3019	N	3	R	T 3	U-233	.30	.30	20	3300		.2	3.3	.2	.4	.2						Misc		Resin A 55 gal drum; IX Column (4' long, 4"dia.), Resin (.35 cu ft)
40085	814	02/20/74	3508	N	8	R	T 16	AM-241	.00	.00				.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
								CM-244	.08	.08																
								PU-239	.00	.00																
40086	817	02/27/74	3508	N	8	R	T 16	AM-241	.32	.32				.1	5.7	.1	1.0	.0							Wood	Contaminated hood
								CM-244	8.09	8.09																
								PU-239	.01	.01																
								U-233	.00	.00																
								U-235																		
40087	837	03/20/74	3508	N	8	R	T 16	AM-241						.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
								CM-244	.00	.00																
								PU-239																		
40088	841	03/28/74	3508	N	8	R	T 16	AM-241				5		.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
								CM-244	.00	.00																
								PU-239																		
40089	842	03/28/74	3508	N	8	R	T 16	AM-241				5		.1	5.7	.1	1.0	.0					Pb		Wood	Two 3' glove boxes packaged in wood and then in metal

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE			ISOTOPIC DATA						PHYSICAL CONTENTS													COMMENTS AND ADDITIONAL NOTES
													VOLUME (FT³)													
																										QUANTITY
DOCNO	ATNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BOXTS	FLT	EQP	RCRA	WAC	OTHER	COMMENT
								CM-244	.00	.00																
								PU-239																		
40090	843	04/02/74	7920	N	4	R	T 3	CM-244	.50	.50	200		400	2.0	9.6	.0	8.4	1.6	63	63	1	2	Pb	211		Miscellaneous cell waste (includes pit waste, two vacuum pumps)
40091	844	04/02/74	7920	N	4	R	7355	CM-244	.50	.50	1		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40092	845	04/09/74	7920	N	4	R	T 4	CM-244	.50	.50	160	10000	150	.5	13.5	.1	.8	.1				1	Pb			Processing Rack from Cubicle 6 (lead bricks used to balance rack)
40093	846	04/11/74	7920	N	4	R	T 4	CM-244	.50	.50	1000	30000	600	2.9	12.0	.1	12.6	2.4	49		1	1	Pb			Cubicle 6 Sample Rack; six bags of waste, lead bricks used to balance rack
40094	847	04/17/74	3508	N	8	R	T 17	AM-241				1		.1	5.7	.1	1.0	.0					Pb		Wood	One 6' glove box packaged in wood and then in metal
								CM-244	.00	.00																
								PU-239																		
40095	848	04/17/74	3508	N	8	R	T 16	AM-241				20		2.4	17.1	4.8	24.0	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
								CM-244	.00	.00																
								PU-239																		
40096	857	04/26/74	7920	N	5	R	T 4	CM-244	.50	.50	500		200	.7	1.3	.0	3.0	.6			1		Pb			Three bags (type T-4) full of miscellaneous unburnable cell waste
40097	858	05/01/74	3508	N	8	R	T 16	AM-241						.1	5.7	.1	1.0	.0					Pb		Wood	One 3' glove box and one section of SS glove box
								CM-244	.00	.00																
								PU-239																		
40098	859-1	05/02/74	3508	N	8	R	T 17	AM-241	.02	.02				.1	5.7	.1	1.0	.0					Pb		Wood	Two sections of glovebox packaged in metal and then wood
								CM-244	8.09	8.09																
								PU-239	.03	.03																
40099	859-2	05/02/74	3508	N	8	R	T 16	AM-241	.02	.02				.1	5.7	.1	1.0	.0					Pb		Wood	Two sections of glovebox packaged in metal and then wood
								CM-244	8.09	8.09																
								PU-239	.03	.03																
40100	859-3	05/02/74	3508	N	8	R	T 16	AM-241	.02	.02				.1	5.7	.1	1.0	.0					Pb		Wood	Two sections of glovebox packaged in metal and then wood
								CM-244	8.09	8.09																
								PU-239	.03	.03																
40101	876	05/23/74	7920	N	4	R	T 4	CF-252	.18	.18	135	10000	75	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.50	.50	135															
40102	881	06/11/74	3508	N	8	R	T 16	AM-241	.00	.00		10		2.4	17.1	4.8	24.0	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
								CM-244	.00	.00																
								PU-239																		
40103	882	06/14/74	7920	N	4	B	T 126	CM-244	.00	.00	10															East and west line bundles from cubicle 4; concrete with wood form
40104	883	06/17/74	7920	N	4	R	T 5	CM-244	.50	.50	20	1000	10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40105	884	06/18/74	7920	N	4	R	T 4	CM-244	.50	.50	20	1000	10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans);pit waste
40106	887	06/21/74	3508	N	8	R	T 17	AM-241	.00	.00				2.4	17.1	4.8	24.0	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
								CM-244	.00	.00																
								PU-239																		
								U-233																		
40107	905	07/19/74	7920	N	3	R	T 5	CM-244	.50	.50	11	1000	1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40109	909	08/09/74	7900	N	3	R	T 4	CM-244	.50	.50	8	500	4	1.5	4.5	4.5	15.0	3.0	2						Wood	Assume floor cask similar to 7920 floor cask
40110	908	08/09/74	7920	N	4	R	T 4	CF-252	.18	.18	1000		800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.50	.50	1000															
40111	920	08/23/74	7920	N	3	R	T 5	CF-252	.18	.18	10		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.50	.50	10															
40112	919	08/23/74	7920	N	3	R	T 4	CF-252	.18	.18	65	2000	20	.9	12.9	3.6	9.0	3.6			5					Iodine retension system (Hopcalite and Charcoal filters plus misc.)
								CM-244	.50	.50	65															
40113	921	09/10/74	7920	N	3	R	T 4	CF-252	.10	.10	15	6000	5	1.5	7.5	4.5	15.0	3.0	2			1			Wood	Floor cask (contains miscellaneous waste plus one vacuum pump, 3 cu ft)
								CM-244	.50	.50	15															
40114	938	10/25/74	7920	N	3	R	T 5	CM-244	.50	.50	190		80	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40115	939	10/25/74	7920	N	4	R	T 4	CF-252	.18	.18	1200		800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.50	.50	1200															
40116	684	03/27/73	2026	N	8	R	T 11	AM-241	.00	.00		10		.1	5.7	.0	1.0	.0							Wood	Glove box plus miscellaneous waste (possible lead)
40149	60	03/19/71	7920	N	3	B	T 188	CM-244	.25	.25	5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40150	62	04/08/71	7920	N	4	B	T 188	CM-244	.25	.25	6500	50000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40151	99	05/18/71	7920	N	4	B	T 188	CM-244	.25	.25	8000	4.0E+6		2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40152	106	05/19/71	7920	N	4	B	T 188	CM-244	.25	.25	30	1000	30	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)

SOLID RH TRU WASTE STORAGE

ORIGIN					STORAGE			ISOTOPIC DATA						PHYSICAL CONTENTS														COMMENTS AND ADDITIONAL NOTES
														VOLUME (FT3)						QUANTITY								
DOCNO	ATTNO	DATE	SEN	CRTITYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHO	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BOXTS	FLT	EQF	RCRA	WAC	OTHER	COMMENT
40153	107	05/21/71	7920	N	4	B	T 188	CM-244	.25	.25	1500	90000		.9	12.9	3.6	9.0	3.6			S				Iodine retension system (Hopcalite and Charcoal filters plus misc.)
40154	110	06/08/71	7920	N	4	B	T 188	CF-252	.17	.17	2000	80000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb		Generic cell waste (possible lead)
40155	114	06/14/71	7920	N	4	B	T 206	CM-244	.25	.25	2000														
								CF-252	.17	.17	2000	80000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb		Generic cell waste (possible lead)
40156	115	06/16/71	7920	N	3	E	T 206	CM-244	.25	.25	2000														
								PU-239	4.05	3.97	2000														
40157	119	06/21/71	7920	N	4	B	T 206	CF-252	.17	.17	25	1000		1.5	4.5	4.5	15.0	3.0	2						
								CM-244	.25	.25	25														
40158	122	06/25/71	3028	N	E	R	T 11	CF-252	.17	.17	3000	4.0E+6	300	2.0	3.6	.0	8.4	1.6	63	63	1		Pb		Wood Floor cask (contains bags and/or poly buckets and/or paint cans)
40159	124	06/29/71	3047	N	B	R	T 11	CM-244	.25	.25	3000														
40160	127	06/30/71	3047	N	B	R	T 11	AM-241	.00	.00		10000													Generic cell waste (possible lead)
40161	125	06/30/71	7920	N	4	B	T 206	CM-244	.00	.00		50		.5	10.7	.1	1.0	.1			1	Pb		Oil Wood	CF_4Cs evaporation glove box (vacuum pump contains oil; lead pigs)
								CF-252	20.23	20.23		500		.5	10.7	.1	1.0	.1			1	Pb		Oil Wood	CF_4Cs evap. glove box (pump contains oil; lead pigs); wood and metal box
40162	126	06/30/71	7920	N	4	B	T 206	CM-244	.17	.17	52	1000	40	1.5	4.5	4.5	15.0	3.0	2		1	Pb		Oil Wood	CF_4Cs evap. glove box (pump contains oil; lead pigs); wood and metal box
40163	132	07/12/71	7920	N	4	E	T 206	CF-252	.25	.25	52														Wood Floor cask (contains bags and/or poly buckets and/or paint cans)
40164	133	07/13/71	7920	N	4	S	T 206	CM-244	.17	.17	4100	300000	100	2.0	3.6	.0	8.4	1.6	63	63	1		Pb		
40165	136	07/20/71	7920	N	3	B	T 206	CM-244	.25	.25	4100														Generic cell waste (possible lead)
40166	138	07/22/71	7920	N	4	B	T 206	CM-244	.25	.25	12														
40167	147	07/29/71	7920	N	4	B	T 206	CM-244	.25	.25	3000			1.5	4.5	4.5	15.0	3.0	2						
								CF-252	.25	.25	4600	1.0E+7		2.0	3.6	.0	8.4	1.6	63	63	1		Pb		Wood Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.17	.17	2600														Generic cell waste (possible lead)
40168	152	08/09/71	7920	N	4	B	T 206	PU-239	.17	.17	240	20000	40	2.0	3.6	.0	8.4	1.6	63	63	1		Pb		
40169	153	08/09/71	7920	N	3	E	T 206	CM-244	.25	.25	240			.5	13.5	.1	.8	.1							In-cell process filters (10,900 mRes/hr at 1")
40170	155	08/13/71	7920	N	4	B	T 206	CM-244	3.68	3.61	240										1	Pb			Generic cell waste (possible lead); 4 R/hr through bottom of cask
								CF-252	.00	.00	1500	100000													Processing Rack from cubicle 7 (lead bricks used to balance rack)
40171	158	08/20/71	7920	N	3	E	T 206	CM-244	.25	.25	5			.5	13.5	.1	.8	.1							
								CM-244	.17	.17	2600	200000	0	1.5	4.5	4.5	15.0	3.0	2		1	Pb			Processing Rack LR-7 (lead bricks used to balance rack)
40172	159	08/20/71	7920	N	4	S	T 206	CM-244	.25	.25	2600		100	2.0	3.6	.0	8.4	1.6	63	63	1		Pb	Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40173	164	08/27/71	7920	N	4	B	T 206	CM-244	.25	.25	5														Generic cell waste (possible lead)
40174	170	09/10/71	7920	N	4	B	T 206	CM-244	.25	.25	6000	790000		1.5	4.5	4.5	15.0	3.0	2						
								CF-252	.25	.25	650	3.0E+6		.5	13.5	.1	.8	.1							
40175	179	09/21/71	7920	N	3	B	T 206	CM-244	.17	.17	10	1000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb	Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40176	180	09/21/71	7920	N	4	B	T 206	CM-244	.25	.25	10			1.5	4.5	4.5	15.0	3.0	2						Dissolver vessel plus misc. waste (8 R/hr through bottom of cask)
40177	181	09/21/71	7920	N	4	B	T 206	CM-244	.25	.25	750	10000													Generic cell waste (possible lead)
40178	194	09/29/71	7920	N	3	B	T 206	CM-244	.25	.25	350	10000		1.5	4.5	4.5	15.0	3.0	2					Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40179	205	09/30/71	3019		4	R		CM-244	.25	.25	45	20000		1.5	4.5	4.5	15.0	3.0	2						
				N				CM-241	.25	.25	10			.9	12.9	3.6	9.0	3.6							
40180	215	10/12/71	7920	N	3	B	T 206	CS-137	3.24	3.21	130			1.5	4.5	4.5	15.0	3.0	2			5		Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CF-252	87.69		130	10000		.2	1.7	.6	3.2	.1	14						Iodine retension system (Hopcalite and Charcoal filters plus misc.)
40181	230	10/20/71	7920	N	3	B	T 206	CM-244	.17	.17	3025	210000											Pb	Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40182	231	10/20/71	7920	N	4	B	T 206	CM-244	.25	.25	3025			2.0	3.6	.0	8.4	1.6	63	63	1		Pb	Carb. Misc. waste (borax, 25 lead pigs, 1x00 Carbon electrodes)
40183	248	10/29/71	4507	N	3	R	T 16	CM-244	.25	.25	3														
								AM-243	.25	.25	1550			1.5	4.5	4.5	15.0	3.0	2						Generic cell waste (possible lead)
40184	247	10/29/71	4507	N	3	R	T 17	CM-244	.00	.00				2.0	3.3	.0	8.4	1.6	63	63	1		Pb		
								AM-243	.00	.00			4	.2	6.5	.1	1.7	.4						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40185	267	11/09/71	7920	N	3	B	T 206	CM-244	.00	.00															Generic cell waste (possible lead)
40186	272	11/15/71	7920	N	4	B	T 206	CM-244	.00	.00			4	.2	6.5	.1	1.7	.4					Pb	Wood	Two glove boxes and one 55 gal. drum in wood box and metal box
								CM-244	.25	.25	10														
40187	273	11/16/71	7920	N	4	B	T 206	PU-239	.25	.25	5	300		1.5	4.5	4.5	15.0	3.0	2					Wood	Two glove boxes and one 55 gal. drum in wood box and metal box
40188	274	11/16/71	7920	N	4	B	T 206	CM-244	6.14	6.02	5			1.5	4.5	4.5	15.0	3.0	2						
40189	282	11/23/71	7920	N	4	B	T 214	CM-244	.25	.25	2250														
40190	305	12/29/71	9204	N	3	R	T 2	CM-244	.25	.25	4700	60000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb	Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								PU-239	.25	.25	40	100000		2.0	3.6	.0	8.4	1.6	63	63	1		Pb	Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								PU-240				25		2.0	3.6	.0	8.4	1.6	63	63	1		Pb		
															8.3	.0	.1	.8							Generic cell waste (possible lead)
																									Generic cell waste (possible lead)
																									Generic cell waste (possible lead)
																								Wood	Calutron liner (two SS plates, 6'x1'x1/16"); ceramic insulators possible

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE				ISOTOPIC DATA						PHYSICAL CONTENTS												COMMENTS AND ADDITIONAL NOTES
														VOLUME (ft³)						QUANTITY						
DOCNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	RCRA	WAC	OTHER	COMMENT
								PU-241	.00																	
								U-233																		
40191	284	12/01/71	7920	N	3	B	T 214	CM-244	.25	.25	16			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40192	285	12/03/71	7920	N	5	B	T 214	CF-252	.17	.17	9000	90000	60													In-cell process filters (2 R/hr at 1'); 4" additional concrete shielding
								CM-244	.25	.25	9000															
40193	300	12/17/71	7900	N	4	B	T 214	CF-252	.17	.17	3100	250000														Unknown waste and packaging; non-burnable; 167 g fissionable material
								CM-244	.25	.25	3100															
								PU-239	3.87	3.79	3100															
								U-235	.00	.00	3100															
40194	299	12/17/71	7920	N	3	B	T 214	CM-244	.25	.25	15	1000		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40195	302	12/29/71	9204	N	8	R	T 2	PU-239	.02	.02		26		.0	6.7	.0	.1	.0				3			Wood	Plutonium source unit, two Thorium source units
40196	303	12/29/71	9204	N	8	R	T 2	PU-239				26		.0	4.7	.0	.1	.0				1			Wood	One Plutonium source unit from mass separation operations
								PU-240																		
								PU-241	.00																	
								U-233																		
40197	304	12/29/71	9204	N	8	R	T 2	PU-239				26		.0	6.7	.0	.1	.0								Plutonium wash box
								PU-240																		
								PU-241	.00																	
								U-233																		
40198	318	01/13/72	3019	N	4	R	T 2	CM-244	.00	.00	270			.0	4.0	1.0	1.0	.1			1		Pb		Wood	HEPA Filter stored in wood box with 1/2" Pb shielding
40199	323	01/14/72	7920	N	4	B	T 214	CM-244	.45	.45	1300			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40200	319	01/14/72	7930	N	3	B	T 214	CF-252	.22	.22	50			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
								CM-244	.45	.45	50															
40201	320	01/14/72	7930	N	3	B	T 214	CF-252	.22	.22	50			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
								CM-244	.45	.45	50															
40202	321	01/14/72	7930	N	3	B	T 214	CF-252	.22	.22	50			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
								CM-244	.45	.45	50															
40203	322	01/14/72	7930	N	3	B	T 214	CF-252	.22	.22	50			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
								CM-244	.45	.45	50															
40204	327	01/18/72	7920	N	4	B	T 214	CM-244	.45	.45	8			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40205	338	02/02/72	7920	N	3	B	T 214	CM-244	.45	.45	10			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40206	339	02/02/72	7920	N	4	B	T 214	CM-244	.45	.45	2000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40207	368	02/10/72	7930	N	4	B	T 214	CF-252	.22	.22	10			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
40208	379	02/23/72	3047	N	8	R	T 17	CM-244	.00	.00				.5	10.7	.1	1.0	.1				1	Pb	Oil	Wood	Cf,Cm evap. glove box (pump contains oil; lead pigs); wood and metal box
40209	387	02/29/72	7920	N	4	B	T 214	CM-244	.45	.45	3000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40210	412	03/09/72	3525	N	9	R	W 3	PU-239	2.20	2.15																Unknown contents (probable nuclear fuel; probably 6" SS can; SNM-13289)
								U-238	.00	.00																
40211	414	03/09/72	7929	N	4	B	T 214	CF-252	.22	.22	10	1900		2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.45	.45	10															
40212	413	03/09/72	7920	N	3	B	T 214	CF-252	.22	.22	10			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.45	.45	10															
40213	918-1	03/17/72	7920	N	4	B	T 214	UNID	96.00					2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40214	426	04/05/72	7920	N	3	R	T 1	CM-244	.45	.45	8			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40215	427	04/11/72	7920	N	4	R	T 1	CF-252	.22	.22	450			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.45	.45	450															
40216	430	04/14/72	7920	N	5	R	T 1	CM-244	.45	.45	5000	1.0E+7	3000													In-cell process filters (60 rad/hr at very bottom)
40217	443	05/03/72	7920	N	4	R	T 1	CM-244	.45	.45	300		1800	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40218	447	05/11/72	7920	N	4	R	T 1	CM-244	.45	.45	1300		600	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40219	446	05/11/72	7920	N	3	R	T 1	CF-252	.22	.22	6		2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.45	.45	6															
40220	450	05/19/72	7920	N	4	R	T 1	CM-244	.45	.45	750		40	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40221	459	05/31/72	7920	N	3	R	T 1	CM-244	.45	.45	30		10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40222	461	06/05/72	7920	N	4	R	T 1	CM-244	.45	.45	2600	1.0E+6	1000	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40223	470	06/26/72	7920	N	5	R	T 1	CM-244	.45	.45	1500	500000	100	.9	1.6	.0	3.7	.7	19	19			Pb			Generic cell waste (buckets range to 450 R); includes one bag
40224	473	06/29/72	NBNL	N	8	R	T 17	PU-239	.00	.00			115	.0	23.8	.0	.0	.0					Pb	Part		Radium-Beryllium sources (approx. 1000g powder); sealed in lead cylinder

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE			ISOTOPIC DATA						PHYSICAL CONTENTS													COMMENTS AND ADDITIONAL NOTES
													VOLUME (ft³)						QUANTITY							
DOCNO	ATTNO	DATE	GEN	CATI	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	RCRA	WAC	OTHER	COMMENT
40225	474	06/29/72	M9NL	N	8	R	T 17	PU-239	.00	.00			115	.0	23.8	.0	.0	.0					Pb	Part		Radium-Beryllium sources (approx. 1000g powder); sealed in lead cylinder
40226	542	08/16/72	7920	N	4	R	T 1	CF-252	.22	.22	50			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.45	.45	50															
40227	543	08/16/72	7920	N	3	R	T 1	CF-252	.22	.22	10			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.45	.45	10															
40229	546	08/22/72	3033	N	8	R	T 2	CF-252	.00	.00			15	.5	13.2	.1	1.0	.1				2	Pb	Oil	Wood	CF,Cm evaporation glove box (vacuum pump contains oil)
40229	548	08/28/72	7920	N	3	R	T 1	CF-252	.22	.22	3			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40230	605	10/13/72	7920	N	4	R	T 1	CM-244	.45	.45	900		149	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40231	711	06/11/73	3525	N	9	R	W 2	CM-244	.00	.00																Unknown contents (probable nuclear fuel materials)
40232	799	02/05/74	9204	N	8	R	T 17	PU-239	.50	.49		1		.0	8.3	.0	.1	.0							Wood	Calutron liner (two plates SS, 6"x1"x1/16"); ceramic insulators possible
40268	241	10/26/71	7920	N	4	B	T 206	CM-244	.25	.25	500			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40269	365	02/10/72	7930	N	4	B	T 214	CF-252	.22	.22	230			.1	1.4	.1	2.6	.2				2	Hg			Two 30 gal black iron
40270	415	03/14/72	7920	N	4	B	T 214	CM-244	.45	.45	900	50000	400	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40272	803	02/15/74	3525	N	9	R	W 8	CM-244	.00	.00													Pb			Unknown contents (4" SS can, flanged, with Pb gasket; SNM 232-234)
								PU-239	1.23	1.23																
								TH-232	3.00	3.00																
								U-235	.00	.00																
								U-238	.00	.00																
40273	1598	07/27/78	7920	N	8	R	T 21	CM-244	.12	.12				.1	5.7	.1	1.0	.0					Pb		Wood	Glove box plus miscellaneous waste (possible lead)
40274	1628	07/27/78	7920	N	3	R	T 22	CM-244	.12	.12	5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40438	816	02/28/74	3508	N	8	R	T 14	AM-241	.32	.32				.1	5.7	.1	1.0	.0							Wood	Contaminated hood
								CM-244	8.09	8.09																
								PU-239	.01	.01																
								U-233																		
								U-235																		
40439	1661	08/21/78	7920	N	3	R	T 22	CM-244	.12	.12	1			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40570	1337	12/19/74	7920	N	3	R	T 5	CF-252	.18	.18	5		2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.50	.50	5															
40571	968	01/30/75	3121	N	3	R	T 5	U-233	.00	.00	2			.0	16.0	1.0	1.0	2.0			4				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
40572	971	02/06/75	7920	N	3	R	T 5	CM-244	.64	.64	5	1000		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40573	972	02/06/75	7920	N	4	R	T 6	CM-244	.64	.64	5	1000	5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40574	983	11/07/75	4501	N	9	R	W 6	PU-239	.06	.06																Unknown contents
								U-235	.00	.00																
40575	1667	09/08/78	7920	N	3	R	T 22	CF-252	.17	.17	1		2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40713	962	01/07/75	3525	N	9	R	W 7	PU-239	1.11	1.08																Unknown contents (probable nuclear fuel materials)
								U-235	.00	.00																
40714	981	02/24/75	7920	N	4	R	T 6	CF-252	.33	.33	1400		1000	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.64	.64	1400															
40715	1001	03/21/75	7920	N	3	R	T 5	CM-244	.64	.64	10		5	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40716	1002	03/25/75	4507	N	8	R	T 16	CM-244	.01	.01		600	5	.1	5.7	.0	1.0	.0					Pb		Wood	Two glove boxes wrapped in plastic in Air Force box
40717	1003	03/25/75	4507	N	8	R	T 16	CM-244	.01	.01		150	15	.5	15.5	.1	.8	.1			2	1	Pb		Wood	Sphere forming process rack, miscellaneous waste (tubing, filters, etc.)
40718	1006	03/25/75	7920	N	3	R	T 6	CM-244	.64	.64	40	5000	25	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
40753	1047	06/17/75	7920	N	3	R	T 7	CM-244	.64	.64	25	1000	2	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
40856	1004	04/08/75	3121	N	3	R	T 7	U-233	.00	.00	10	800		.0	16.0	1.0	1.0	2.0			4				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
40857	1009	04/28/75	3019		3	R		AM-241			1550	40000	50	.2	1.7	.6	3.2	.1	14				Pb		Carbon	Misc. waste (approx. 25 lead pigs, 1000 Carbon electrodes)
				N				CF-252			1550															
								CM-244	.00	.00	1550															
40858	1027	05/02/75	7920	N	3	R	T 7	CM-244	.64	.64	2	100		.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
40859	1028	05/02/75	7920	N	4	R	T 6	CM-244	.64	.64	200	1000	100	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
40860	1030	05/07/75	7920	N	5	R	T 7	CF-252	.33	.33	650		250	.7	1.2	.0	2.8	.5	21	21	1		Pb			Generic cell waste (possible lead)
								CM-244	.64	.64	650															
40861	1044	06/06/75	4507	N	8	R	T 16	CM-244	.01	.01		2000	5	1.0	15.2	.1	.1	0					Pb		Wood	Five feed tanks packaged in double length 55 gal. drums; wood, metal boxes
40862	1046	06/17/75	7920	N	3	R	T 6	CM-244	.64	.64	2	500	2	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
40863	1048	06/17/75	7930	N	3	R	T 7	CF-252	.33	.33	800		600	.1	1.4	.1	2.6	.2				3	Hg			Two 30 gal black iron
40864	1049	06/17/75	7930	N	3	R	T 7	CF-252	.33	.33	540		400	.1	1.4	.1	2.6	.2				3	Hg			Two 30 gal black iron

SOLID RH TRU WASTE STORAGE

ORIGIN			STORAGE					ISOTOPIC DATA					PHYSICAL CONTENTS											COMMENTS AND ADDITIONAL NOTES
													VOLUME (FT³)					QUANTITY						
DOCNO	ATINO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SARRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EGP	RCRA	WAC	OTHER	COMMENT
40865	1050	06/17/75	7920	N	3	R	T 7	CF-252	.33	.33	560		400	.1	1.4	.1	2.6	.2				3	Hg			Two 30 gal black iron
40866	1069	06/25/75	4507	N	8	R	T 16	CM-244	.01	.01		100	5	2.4	38.7	4.8	2.4	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
40867	1109	09/09/75	3121	M	3	R	Y 9	U-233	.50	.49	1			.0	16.0	1.0	1.0	2.0			8				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
40868	1131	10/02/75	3019	M	8	R	T 11	PU-239	.00	.00			.1	.1	5.7	.1	1.0	.0							Wood	Glove box plus miscellaneous waste (possible lead)
40869	1132	10/07/75	4507	N	8	R	T 11	CM-244	.01	.01				.7	19.2	.0	4.0	2.4					Pb		Wood	Miscellaneous waste (packaged in six 55 gal drums, wood box, metal box)
40870	1133	10/22/75	7920	N	4	R	T 9	CM-244	.30	.30	250		100	.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-5 (lead bricks used to balance rack)
40871	1040	05/15/75	4507	N	8	R	T 16	CM-244	.01	.01		1000	5	.5	40.5	.1	.6	.1				3	Pb		Wood	Tantalum mixer settler rack, heat exch. rack, feed tank rack
40872	1687	10/04/78	7920	N	3	R	T 22	CF-252	.17	.17	2		1	.5	13.5	.1	.8	.1				1	Pb			Processing Rack LR-5 (lead bricks used to balance rack)
40873	1684	10/04/78	7920	N	3	R	T 22	CF-252	.17	.17	189		200	.5	13.5	.1	.8	.1				1	Pb			Processing Rack BR-5 (lead bricks used to balance rack)
								CM-244	.12	.12	180															
41015	1700	11/13/78	7920	N	3	R	T 23	CF-252	.17	.17	85		750	2.0	3.6	.0	8.4	1.6	59	59	8		Pb			Generic cell waste (possible lead)
41133	1714	12/06/78	7920	N	4	R	T 23	CF-252	.17	.17	200		175	2.7	7.5	.0	8.1	1.3	85	3		1	Pb		Wood	Generic cell waste (possible lead)
								CM-244	.12	.12	200															
41139	1712	12/14/78	7930	N	5	R	T 23	CF-252	.17	.17	80	300	150	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
								UNID	.05	.05	80															
41140	1711	12/14/78	7930	N	5	R	T 23	CF-252	.17	.17	40	1000	225	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
								UNID	.30		40															
41141	1713	12/14/78	7930	N	5	R	T 23	CF-252	.17	.17	75	700	200	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
								UNID	.10		75															
41317	1726	01/30/79	7920	N	4	R	T 23	CF-252	.10	.10	200		100	2.0	3.6	.0	8.4	1.6	53	62	1		Pb			Generic cell waste (five paint cans are lined with lead)
								CM-244	.01	.01	200															
41528	1190	12/18/75	7920	N	3	R	T 9	CM-244	.64	.64	5	500	5	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
41529	1187	12/18/75	7920	N	4	R	T 9	CM-244	.64	.64	250	2000	100	2.0	3.6	.0	8.4	1.6	52	63	10		Pb			Generic cell waste (possible lead)
41530	1188	12/18/75	7920	N	3	R	T 9	CM-244	.64	.64	24	1000	12	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
41531	1187	12/23/75	4507	N	8	R	T 17	AM-241	.00	.00			5	2.4	38.7	4.8	2.4	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
								CM-248	.00	.00																
								PU-239	.00	.00																
41532	1209	01/14/76	7920	N	4	R	T 9	CF-252	.11	.11	1080	2000	800	2.0	3.6	.0	8.4	1.6	28							Misc. waste in three type Y-4 bags; M&O stuffing box; various equipment
								CM-244	.46	.46	1080															
41533	1213	01/27/76	4507	N	8	R	T 16	PU-239	.00	.00	300	1500		.0	34.7	.2	.2	16.0					Pb		Wood	Three crates of misc. waste (one crate contains of Airline suits)
								U-233	.00	.00	300															
41534	1236	02/17/76	4507	N	8	R	T 16	CM-244	.00	.00	300			2.4	38.7	4.8	2.4	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
41535	1237	03/10/76	7920	N	3	R	T 9	CF-252	.11	.11	25	1000	15	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
								CM-244	.46	.46	25															
41536	1248	03/18/76	7920	N	4	R	T 9	CF-252	.11	.11	700	2000	600	2.0	3.6	.0	8.4	1.6	64	64	1		Pb			Generic cell waste (possible lead)
								CM-244	.46	.46	700															
41538	1262	04/07/76	7920	N	3	R	T 9	CF-252	.11	.11	65		50	1.3	3.3	2.7	12.4	2.5	60						Wood	Floor cask (all waste packaged in sixty five-gallon lard cans)
								CM-244	.46	.46	65															
41539	1263	04/07/76	7920	N	4	R	T 9	CF-252	.11	.11	500		300	2.0	3.6	.0	8.4	1.6	33	63	30		Pb			Generic cell waste (possible lead); 30 filters in buckets
								CM-244	.46	.46	500															
41540	1264	04/07/76	7920	N	3	R	T 10	CF-252	.11	.11	10		5	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste, some packaged in fiber drums)
								CM-244	.46	.46	10															
41585	1287	06/23/76	4508	N	6	R	T 13	---						.0	.3	.0	.0	.0						Pyro		Pyrophoric waste packaged in 55 gallon drum -- stored with ATN # 1283
41586	1284	06/23/76	4508	N	6	R	T 13	---						.0	.3	.0	.0	.0								Unknown waste but buried with ATN-1283
41684	1353	03/10/77	7920	N	3	R	T 18	CF-252	.12	.17	55		50	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24" fiber drums)
								CM-244	.92	.82	55															
41677	1271	04/22/76	7920	N	5	R	T 10	CF-252	.11	.11	1050		750	.7	1.2	.0	2.6	.5	22	22	1		Pb			Generic cell waste (possible lead)
								CM-244	.46	.46	1050															
41678	1277	05/12/76	7920	N	3	R	T 10	BK-249	.00		6	1000	3	.7	2.1	2.1	7.0	1.4	2						Wood	Floor cask (contains misc. waste packaged in 21 fiber drums)
								CF-252	.11	.11	6															
41679	1276	05/21/76	3019	N	3	R	T 10	CF-252	.00	.00	3000		50	.2	1.7	.6	3.2	.1	14				Pb		Carb.	Misc. waste (approx. 25 lead pigs, 1000 Carbon electrodes)
41680	1278	05/25/76	7920	N	4	R	T 10	BK-249	.00		190	3000	150	1.5	3.4	1.6	9.5	1.9	57	31	1		Pb		Wood	Generic cell waste (31 poly buckets, 31 paint cans, and 26 lard cans)
								CF-252	.11	.11	190															
41681	1281	06/19/76	4507	N	8	R	T 17	CM-244	.00	.00				2.4	38.7	4.8	2.4	2.4					Pb		Wood	Miscellaneous trash from decontamination; packaged in wood and then metal
41682	1291	06/06/76	7920	N	4	R	T 12	CF-252	.11	.11	259		50	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE			ISOTOPIC DATA					PHYSICAL CONTENTS																COMMENTS AND ADDITIONAL NOTES
												VOLUME (ft³)							QUANTITY									
DOCNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNGHD	NEUT	LBLABS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	RCRA	WSC	OTHER	COMMENT
								CM-244	.46	.46	250															
41683	1290	08/06/76	7920	N	3	R	T 10	CF-252	.11	.11	6		4	.7	2.1	2.1	7.0	1.4	2						Wood	Floor cask (contains misc. waste packaged in 21 fiber drums)
								CM-244	.46	.46	6															
41684	1292	08/06/76	9204	N	9	R	T 14	CM-244	.00	.00			7	.0	49.5	.6	.1	.0								Calutron tank system (750 cu. foot tank; 1" thick metal; painted)
41685	1299	08/20/76	7930	N	5	R	T 10	CF-252	.11	.11	1050	200	500	.1	1.4	.1	2.6	.2					1	Hg		Two 30 gal black iron
								CM-244	.46	.46	1050															
41688	1300	08/26/76	7930	N	5	R	T 12	CMIO			1650		1350	.1	1.4	.1	2.6	.2					1	Hg		Two 30 gal black iron
41689	1323	09/01/76	9204	N	9	R	T 14	CM-244	.00	.00		4	2	.0	99.3	.0	.1									One box of miscellaneous calutron equipment (mostly SS tubing)
41690	1306	09/16/76	7930	N	3	R	T 12	CF-252	.11	.11	330	500	250	.5	13.5	.5	.8	.1					1	Hg		Processing/Column Equipment Rack
41691	1307	09/16/76	7930	N	3	R	T 12	CF-252	.11	.11	5	500	500	.5	13.5	.5	.8	.1					1	Hg		Processing/Column Equipment Rack
41692	1308	09/17/76	3508	N	9	R	T 16	PU-239	.02	.02		5		.3	16.7	.4	7.0	.0						Pb	Wood	One ATM # is assigned to four boxes -- 3 metal glove boxes, one plastic
41693	1321	09/22/76	3019	N	3	R	T 12	CM-244	.00	.00	520		10	.2	1.7	.6	3.2	.1	14					Pb	Cark.	Misc. waste (approx. 25 lead pigs, 1000 Carbon electrodes)
41694	1313	10/05/76	7920	N	3	R	T 12	CF-252	.11	.11	20		5	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.46	.46	20															
41695	1314	10/05/76	7920	N	3	R	T 12	CF-252	.11	.11	55		15	1.3	3.7	3.7	12.4	2.5	60						Wood	Floor cask (all waste packaged in sixty five-gallon lard cans)
								CM-244	.46	.46	55															
41696	1315	10/05/76	7920	N	4	R	T 10	CF-252	.11	.11	290		40	2.1	3.7	.1	8.7	1.7	65	63	1			Pb	Wood	Generic cell waste (possible lead); two additional lard cans
								CM-244	.46	.46	290															
41697	1331	11/11/76	7920	N	4	R	T 15	CF-252	.11	.11	3500	20000	2500	3.9	6.9	.0	16.2	3.0	65		1					Generic cell waste (packaged in large plastic bags)
								CM-244	.46	.46	3500															
41698	1332	11/11/76	7920	N	3	R	T 15	CF-252	.11	.11	21	2000	15	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.46	.46	21															
41699	1293	11/14/76	4508	N	3	R	T 15	PU-239	5.16	5.05	50	10		.0	.6	.1	.0	.1	6						Part.	Vera. A 55 gal drum; Vereiculite packing; metal dust-pellets; approx. 350 g Pu,U
								U-233	.04	.04	50															
								U-235	.00	.00	50															
								U-238	.00	.00	50															
41700	1344	12/20/76	7920	N	3	R	T 15	CF-252	.11	.11	17		12	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.46	.46	17															
41701	1354	01/31/77	7920	N	3	R	T 15	CF-252	.18	.17	3		1	.8	2.4	2.4	8.0	1.6	2						Wood	Floor cask (contains misc. waste packaged in 24 fiber drums)
								CM-244	.82	.82	3															
41702	1353	01/31/77	7920	N	3	R	T 15	CF-252	.18	.17	27		25	.8	3.7	2.2	7.3	1.4	35			2		Pb	Wood	Floor cask waste (thirty-five lard cans); glovebox (2'x2'x2'; Pb); wood
								CM-244	.82	.82	27															
41703	1357	03/10/77	7920	N	4	R	T 18	AM-243	.00	.00	600		200	2.0	3.6	.0	8.4	1.6	63	63	1			Pb		Generic cell waste (possible lead)
								CF-252	.19	.17	600															
41704	1746	03/21/79	7920	N	4	R	T 25	CF-252	1.00	.99	400		500	2.0	3.6	.0	8.4	1.6	57	63	1			Pb		Generic cell waste (six paint cans are lined with lead)
42008	871	04/15/74	7920	N	3	R	T 5	CF-252	.13	.16	5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.50	.50	5															
42060	1833	06/27/79	7920	N	4	R	T 25	CF-252	.00	.00	5		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.01	.01	5															
42061	1834	06/27/79	7920	N	4	R	T 25	CF-252	.05	.05	200		125	2.0	3.6	.0	8.4	1.6	63	63	1			Pb		Generic cell waste (possible lead)
								CM-244	.28	.28	200															
42252	1856	09/10/79	7920	N	4	R	T 25	CF-252	.20	.20	1700		500	1.2	11.8	.0	5.6	1.9	62	1	1	3		Pb		Generic cell waste (possible lead); 3 furnaces
								CM-244	2.79	2.70	1700															
42324	1852	08/30/79	7920	N	4	R	T 25	CF-252	.34	.34	400		800	2.0	3.6	.0	8.4	1.6	63	63	1			Pb		Generic cell waste (possible lead)
								CM-244	.31	.31	400															
42361	1863	09/26/79	7920	N	5	R	T 25	CM-244	.00	.00	1		1	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
42362	1864	09/26/79	7920	N	5	R	T 25	CF-252	2.40	2.38	650		700	.5	1.9	.0	2.1	.4	25		3			Pb	Hulls	Generic cell waste (contains three hot filters, and spent fuel hulls)
								CM-244	8.30	8.23	650															
42440	1878	10/05/79	7920	N	5	R	7855	CF-252	1.00	.99	890		300	.7	1.6	.0	2.9	.5	35		1			Pb	Hulls	Generic cell waste (one hot filter, spent fuel hulls, wood sample holder)
								CM-244	12.00	12.00	800															
42668	1905	12/14/79	7920	N	4	R	7855	CM-244	1.00	1.00	2			1.5	7.5	4.5	15.0	3.0	2				1	Oil	Oil Wood	Floor cask (contains tunnel decontamination debris, one vacuum pump)
42672	1907	12/14/79	3508	N	8	R	T 24	AM-241	1.00	.99				.0	16.0	1.0	1.0	2.0				4		Pb	Wood	Wood box (4'x4'x3') with off gas filters
								CM-244	.50	.50																
								NP-237	.10	.10																
								PU-239	.30	.29																

SOLID RH TRU WASTE STORAGE

ORIGIN					STORAGE		ISOTOPIC DATA					PHYSICAL CONTENTS													COMMENTS AND ADDITIONAL NOTES
												VOLUME (FT³)					QUANTITY								
DOCNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BOXTS	FLT	EQP	RCRA	WAC	OTHER	COMMENT
								U-233																		
42499	---	01/10/80	3508	N	8	R	T 24	AM-241	6.00	5.94													Pb		Wood	Wood box with 3 1/2 gal. fiber glass in bottom
42862	1937	02/14/80	7920	N	4	R	7855	CF-252	.30	.30	300		700	2.1	3.8	.0	8.8	1.7	61	65	1		Pb		Wood	Generic cell waste (three paint cans are lined with lead)
								CM-244	.20	.20	300															
42863	1942	02/21/80	3038	N	4	R	7855	AM-241	6.48	6.42	5		34	.4	1.6	.0	.1	3.3	12			1	Oil	Oil		Twelve 5 gal cans; two 55 gal drums; possible vacuum pump, oil; SS tubes
								CM-244	80.90	60.90	5															
42942	2012	03/28/80	7920	N	4	R	7855	CF-252	.30	.30	400		700	2.0	3.6	.0	8.4	1.6	54	62	1		Pb			Generic cell waste (four paint cans are lined with lead)
								CM-244	.50	.50	400															
43009	---	04/15/80	3019	N	8	R	T 26	U-233	.01	.01															Wood	Unknown contents; SWIMS suggest this waste is CM
43010	---	04/15/80	3019	N	8	R	T 26	U-233	.00	.00															Wood	Unknown contents; SWIMS suggest this waste is CM
43139	2023	05/22/80	7920	N	4	R	7855	CF-252	.01	.00	4		12	2.0	3.6	.0	8.4	1.6	57	65	1		Pb			Generic cell waste (two paint cans are lined with lead)
								CM-244	.00	.00	4															
43140	2024	05/22/80	7920	N	4	R	7855	CF-252	.13	.13	300		300	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
								CM-244	.37	.37	300															
43453	2022	08/01/80	7920	N	4	R	7855	CF-252	.13	.13	100		300	2.0	3.6	.0	8.4	1.6	49	65	1	1	Pb			Generic cell waste (ultrasonic cleaner in one polybucket)
								CM-244	.03	.03	100															
43592	1981	09/25/80	3121	N	8	R	7855	U-233	.00	.00	1			.0	20.0	1.0	1.0	2.0			5				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
43669	2062	10/09/80	7920	N	4	R	7855	CM-244	.41	.41	300		225	2.0	3.6	.0	8.4	1.6	62	64	1		Pb			Generic cell waste (three paint cans are lined with lead)
43670	1988	10/15/80	3121	N	4	R	7855	U-233	.10	.10	30			.0	20.0	1.0	1.0	2.0			5				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
43811	2070	12/04/80	7920	N	4	R	7855	CM-244	.00	.00	10			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
43812	2071	12/04/80	7920	N	4	R	7855	CM-244	.03	.03	160		250	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
43869	2134	12/22/80	3508	N	5	R	T 26	AM-241	.00	.00															Wood	Unknown contents
								CM-244	.40	.40																
								PU-239	.03	.03																
44094	2077	02/02/81	7920	N	4	R	7855	CM-244	.30	.30	100		900	1.2	11.7	.0	6.1	.9	61		1	2	Pb,Hg		Wood	Generic cell waste (lead pig, mercury light; various motors, equipment)
44182	2093	03/23/81	7920	N	4	R	7855	CF-252	.20	.20	300		500	2.0	3.6	.0	8.4	1.6	50	64	1		Pb			Generic cell waste (lead pig, lead brick; three paint cans are Pb lined)
								CM-244	.30	.30	300															
44278	2103	04/04/81	3508	N	8	R	T 27	AM-241	.32	.32													Pb		Wood	Lead wrapped in plastic in wood box (400 Lbs)
								CM-244	4.05	4.05																
								PU-239	.06	.06																
44251	2078	04/30/81	7920	N	5	R	7855	CF-252	2.00	1.98	1000		500	.7	2.2	.0	2.6	.5	33		3				Hulls	Generic cell waste (contains three hot filters, and spent fuel hulls)
								CM-244	11.00	11.00	1000															
44282	2200	04/30/81	7920	N	4	R	7855	CM-244	.01	.01	10		25	2.0	3.6	.0	8.4	1.6	58	64	1		Pb			Generic cell waste (three paint cans are lined with lead)
44456	2205	06/05/81	7920	N	4	R	7855	CM-244	.04	.04	160		200	2.0	3.6	.0	8.4	1.6	43	64	1		Pb			Generic cell waste (possible lead)
44630	2240	09/11/81	7920	N	4	R	7855	CM-244	.01	.01	6		6	1.5	5.5	4.5	15.0	3.5	2			1			Wood	Floor cask (two types of analytical pumps)
44671	2223	09/11/81	7920	N	4	R	7855	CF-252	.50	.50	400		400	2.0	3.6	.0	8.4	1.6	59	63	1		Pb			Generic cell waste (three paint cans are lined with lead)
44733	2241	10/15/81	7920	N	4	R	7855	CF-252	.03	.03	100		75	2.1	3.8	.0	8.6	1.7	64	66	1		Pb			Generic cell waste (possible lead)
								CM-244	.14	.14	100															
44850	2244	12/04/81	7920	N	4	R	7855	CF-252	.26	.26	500		600	2.0	3.6	.0	8.4	1.6	52	62	1		Pb			Generic cell waste (one paint can is lined with lead)
								CM-244	.57	.57	500															
45132	2300	03/02/82	3019	N	4	R	7855	U-233	1.00	.98	1	.26		.0	20.0	1.0	1.0	2.0			5				Wood	HEPA Filters (24"x24"x12"; metal or wood housing)
45133	2247	03/16/82	7920	N	4	R	7855	CM-244	.02	.02	320		220	2.1	3.8	.0	8.6	1.7	56	66	1		Pb			Generic cell waste (one paint can is lined with lead)
45290	2307	04/05/82	3038	N	3	R	7855	CM-244	80.90	60.90	10		40	.4	1.3	.1	.1	2.5				1	Oil	Oil	Wood	Two 30 gal drums of misc. waste; possible pump, oil
45284	2265	05/13/82	7920	N	4	R	7855	CF-252	.00	.00	2		10	.9	3.8	2.3	7.6	.7	2						Wood	Floor cask (generic waste plus glovebox)
45408	2280	07/01/82	7920	N	4	R	7855	CF-252	.96	.85	320		2000	2.0	3.6	.0	8.4	1.6	37	64	1		Pb	Comp		Generic cell waste (possible lead); one bucket contains fire extinguisher
45474	2275	08/06/82	7920	N	3	R	7855	CF-252	.17	.17	900		400	2.2	10.8	.0	8.6	1.3	85			4	Pb			Generic cell waste (possible lead); centrifuges, furnaces
								CM-244	1.35	1.35	900															
45548	2277	08/19/82	7920	N	5	R	7855	CF-252	.01	.01	900		200	.5	2.2	.0	2.2	.4	27		4				Hulls	Generic cell waste (contains three hot filters, and spent fuel hulls)
								CM-244	.04	.04	900															
45591	2284	09/29/82	7920	N	4	R	7855	CF-252	.00	.00	80		70	.9	12.9	3.6	9.0	3.6			5					Iodine retension system (Hopcalite and Charcoal filters plus misc.)
								CM-244	.01	.01	80															
45592	2285	09/29/82	7920	N	4	R	7855	CF-252	.00	.00	20		100	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
45852	2279	01/04/83	7920	N	4	R	7855	CM-244	.01	.01			50	2.0	3.6	.0	8.4	1.6	31	61	1		Pb			Generic cell waste (possible lead); Pu-Be source in one poly bucket
								PU-239	.06	.06																
46031	2406	02/25/83	7920	N	4	R	7855	CM-244	.03	.03			350	2.0	3.6	.0	8.4	1.6	60	64	1	1	Pb			Generic cell waste (possible lead); equipment is a variac

SOLID RH TRU WASTE STORAGE

ORIGIN					STORAGE				ISOTOPIC DATA						PHYSICAL CONTENTS															COMMENTS AND ADDITIONAL NOTES
															VOLUME (FT³)									QUANTITY						
DOCNO	ATTNO	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SRFRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EBP	RCRA	WAC	OTHER	COMMENT	
46082	2350	03/02/83	3038	N	3	R	7855	AM-241	16.20	16.04					.4	1.6	.0	.1	3.3	12				1	Oil	Oil	Twelve 5 gal cans; two 55 gal drums; possible vacuum pump, oil; SS tubes
								CM-244	80.90	80.90																	
46158	2351	03/25/83	7930	N	5	R	7855	CF-252	.00	.00		150	350		.1	1.4	.1	2.6	.2					1	Hg		Two 30 gal black iron
46159	2352	03/25/83	7930	N	5	R	7855	CF-252	.00	.00		200	500		.1	1.4	.1	2.6	.2					1	Hg		Two 30 gal black iron
46160	2353	03/31/83	7930	N	5	R	7855	CF-252	.00	.00		120	300		.1	1.4	.1	2.6	.2					1	Hg		Two 30 gal black iron
46340	2229	05/24/83	7920	N	4	R	7855	CM-244	.03	.03			150		2.0	3.6	.0	8.4	1.6	63	63	1			Pb		Generic cell waste (possible lead)
46341	2296	05/24/83	7920	N	4	R	7855	CM-244	.00	.00			2		2.0	3.6	.0	8.4	1.6	54	64	1			Pb		Generic cell waste (eight paint cans are lined with lead)
46381	2434	08/04/83	7920	N	4	R	7855	CM-244	.07	.07			450		2.0	3.6	.0	8.4	1.6	57	64	1			Pb		Generic cell waste (possible lead)
46879	2446	10/17/83	7920	N	4	R	7855	CM-244	.00	.00			20		1.1	1.9	.0	5.2	.9	34	68	1			Pb		Generic cell waste (possible lead); Bain-Marie containers and poly buckets
46880	2438	10/17/83	7920	N	5	R	7855	CM-244	.02	.02			100		.7	1.2	.0	3.2	.5	21	42	1			Pb		Generic cell waste (possible lead); Bain-Marie containers and poly buckets
46881	2384	10/21/83	3038	N	4	R	7855	AM-241	.50	.50					.4	1.6	.0	.1	3.3	12				1	Oil	Oil	Twelve 5 gal cans; two 55 gal drums; possible vacuum pump, oil; SS tubes
								CM-244	.50	.50																	
46977	2450	11/15/83	7920	N	4	R	7855	CF-252	.04	.04			200		2.1	3.8	.0	8.9	1.7	61	66	1			Pb		Generic cell waste (three paint cans are lined with lead)
								CM-244	.04	.04																	
46991	2455	12/15/83	7920	N	4	R	7855	CM-244	.06	.06			250		2.0	3.6	.0	8.5	1.6	57	68	1			Pb		Generic cell waste (seven paint cans are lined with lead); four Bain-Marie
47024	2457	01/06/84	7920	N	5	R	7855	CM-244	.06	.06			250		.7	1.2	.0	2.8	.5	21	22	1			Pb		Generic cell waste (possible lead); one Bain-Marie
47159	2461	02/07/84	7920	N	4	R	7855	CF-252	.43	.43			1000		2.0	3.6	.0	8.4	1.6	63	63	1			Pb		Generic cell waste (possible lead)
								CM-244	.39	.39																	
47351	2521	04/02/84	3038	N	4	R	7855	AC-227	.00				10		.4	1.6	.0	.1	3.3	12				1	Oil	Oil	Twelve 5 gal cans; two 55 gal drums; possible vacuum pump, oil; SS tubes
								RA-223	.00																		
								TH-232	.00	.00																Dirt	Two 55 gal drums each half full of contaminated dirt (7.35 cu ft)
47586	2528	06/22/84	3505	N	5	R	7855	CS-137	1.70			25			.0	.6	.1	.0	.0								
								PU-239	.48	.47																	
								SR-90	11.10																		
47626	2474	07/03/84	7920	N	4	R	7855	CF-252	.00	.00			50		2.0	3.6	.0	8.5	1.6	49	69	1			Pb		Generic cell waste (three paint cans are lined with lead); four Bain-Marie
								CM-244	.03	.03																	
47627	2475	07/03/84	7920	N	4	R	7855	CF-252	.00	.00			25		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.01	.01																	
47733	2482	07/17/84	7920	N	4	R	7855	CF-252	.00	.00			75		.7	7.5	.1	2.3	.4	23				1	Pb		Tool Rack Cubicle 6 (lead bricks; conveyor covers; 23 paint cans
								CM-244	.02	.02																	
47817	2493	08/17/84	7920	N	4	R	7855	CF-252	.14	.14			80		2.0	3.6	.0	8.9	1.6	56	90	1	2	Pb			Generic cell waste (two Pb lined paint cans); 26 Bain-Marie; motor, vortex
								CM-244	.02	.02																	
48071	2499	10/31/84	7920	N	4	R	7855	CF-252	.05	.05			150		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.40	.40																	
48072	2600	10/31/84	7920	N	4	R	7855	CF-252	.01	.00			15		.9	12.9	3.6	9.0	3.6	8	12	5					Iodine retension system (Mopsalite and Charcoal filters plus 12 buckets)
								CM-244	.04	.04																	
48274	2607	01/10/85	7920	N	4	R	7855	CM-244	1.00	1.00	200		200		2.2	3.7	.0	9.1	1.7	46	68	1	1	Pb			Generic cell waste (eight paint cans are lined with lead); motor
48430	2612	03/05/85	7920	N	4	R	7855	CF-252	1.25	1.24			250		2.2	3.7	.0	9.1	1.7	63	68	1	1	Pb			Generic cell waste (one paint can is lined with lead)
								CM-244	.12	.12																	
48481	2613	03/05/85	7920	N	4	R	7855	CF-252	.15	.15			30		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.02	.02																	
48608	2614	03/15/85	7920	N	5	R	7855	CF-252	2.30	2.28			450		.6	2.1	.0	2.6	.5	30	5	1					Generic cell waste (possible lead); five Bain-Marie containers
								CM-244	.20	.20																	
48929	0-2	07/31/63	YAEC	N	14	R	SSW 118	AG-110	********																		Yanke Atomic Energy Com. -- silver plated control rods
48930	0-1	10/01/69	P.RIC	N	14	R	SSW 119	CO-60	1190.00																		Bonus control and Shim rods (YAEC)
48931	2626	06/27/85	7920	N	4	R	7855	CF-252	.25	.25	300		50		2.2	4.0	.0	9.2	1.7	39	67	1			Pb		Generic cell waste (possible lead)
								CM-244	.03	.03	390																
48932	2627	06/27/85	7920	N	4	R	7855	CF-252	.13	.13	15		25		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.01	.01	15																
49087	2632	08/12/85	7920	N	4	R	7855	CF-252	.03	.03	5		6		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (tent and other debris from conveyor repair)
								CM-244	.00	.00	5																
49101	2634	09/17/85	7920	N	4	R	7855	CF-252	.40	.40	600		50		2.0	3.6	.0	8.6	1.6	51	76	1			Pb		Generic cell waste (seventeen Pb lined paint cans; 11 Bain-Marie)
49273	2640	11/04/85	7920	N	4	R	7855	CF-252	1.00	1.00	400		200		1.8	3.2	.0	7.6	1.4	34	57	1			Pb		Generic cell waste (eight Pb-lined paint cans)
								CM-244	1.00	1.00	400																
49367	2644	12/04/85	7920	N	4	R	7855	CF-252	.00	.00			25		1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (tent and other debris from conveyor repair)

SOLID RH TRU WASTE STORAGE

ORIGIN				STORAGE				ISOTOPIC DATA						PHYSICAL CONTENTS												COMMENTS AND ADDITIONAL NOTES
														VOLUME (FT³)								QUANTITY				
DOCKO	ATTND	DATE	GEN	CRT	TYP	STR	LOCATN	ISOTOPE	CURIES	ALPHA	SARRAD	UNSHD	NEUT	GLASS	METAL	PAPER	PLSTC	CLOTH	CANS	BUKTS	FLT	EQP	ACRA	WAC	OTHER	COMMENT
								CM-244	.60	.60																
49775	2645	01/24/86	7920	N	4	R	7855	CF-252	1.50	1.50			300	2.2	3.9	.0	9.1	1.7	43	68	1	1	Pb			Generic cell waste (eleven paint cans are lined with lead)
								CM-244	1.50	1.50																
49991	2815	03/10/86	7930	N	5	R	7855	CF-252	.75	.74			150	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
49992	2814	03/10/86	7930	N	5	R	7855	CF-252	.50	.50			100	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
50004	2816	03/12/86	7930	N	5	R	7855	CF-252				125	150	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
50045	2684	04/08/86	7920	N	4	R	7855	CF-252	2.50	2.50	500		500	2.0	3.6	.0	8.4	1.6	40	64	1	2	Pb			Generic cell waste (four paint cans are lined with lead; two motors)
								CM-244	2.50	2.50	500															
50046	2685	04/08/86	7920	N	4	R	7855	CF-252	.01	.01	2		2	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.01	.01	2															
50151	2682	06/10/86	7920	N	4	R	7855	CM-244	.50	.50			100	2.0	3.6	.0	8.4	1.6	40	65	1		Pb			Generic cell waste (two paint cans are lined with lead)
50203	2699	06/20/86	7920	N	5	R	7855	CF-252	.80	.80	2000		150	.6	2.4	.0	2.1	.4	25		4		Pb			Generic cell waste (possible lead)
								CS-137	.30	.30	2000															
50386	2698	08/06/86	7920	N	4	R	7855	CF-252	1.20	1.20	250		100	2.0	3.6	.0	8.4	1.6	49	64	1		Pb			Generic cell waste (three paint cans are lined with lead)
								CM-244	1.20	1.20	250															
50811	2685	10/27/86	7930	N	5	R	7855	CF-252	.25	.24	60		200	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
50812	2686	10/27/86	7930	N	5	R	7855	CF-252	.40	.39	160		500	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
50813	2687	10/27/86	7930	N	4	R	7855	CF-252	.00	.00	5		15	.1	1.4	.1	2.6	.2				1	Hg			Two 30 gal black iron
51448	2697	12/11/86	7920	N	4	R	7855	CF-252	.03	.03			100	.9	12.9	3.6	9.0	3.6			5					Iodine retension system (Hopcalite and Charcoal filters plus misc.)
								CM-244	.03	.03																
51521	2694	01/15/87	7920	N	4	R	7855	CF-252	1.25	1.25	500		700	2.2	3.9	.0	9.1	1.7	50	67	1	0	Pb		Resin	Generic cell waste (contains 5 buckets of resin; one Pb lined paint can)
								CM-244	1.25	1.25	500															
51527	2689	11/20/86	7920	N	4	R	7855	CF-252	.04	.04	80		25	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.04	.04	80															
52473	2866	06/04/87	7920	N	4	R	7855	CF-252					400	2.0	3.6	.0	8.4	1.6	43	64	1	2	Pb			Generic cell waste (possible lead)
								CM-244																		
53262	2869	11/06/87	7920	N	4	R	7855	CF-252	.63	.63	600		250	2.0	3.6	.0	8.5	1.6	46	68	1	2	Pb			Generic cell waste (possible lead; four Bain Marie; one elec. mixer)
								CM-244	.63	.63	600															
53263	2870	11/06/87	7920	N	4	R	7855	CF-252	.00	.00			10	1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
								CM-244	.00	.00																
---	---	10/10/75	7920	N	4	R	T 9	CF-252	.33	.33	2250		1400	2.0	12.0	.5	.5	.5				6				Equipment(5 furnaces, 1 Variac, 1 centrifuge, 1 titrator, tanks and pots)
---	---	08/24/73	7920	N	4	R	T 3	CM-244			60		40	.9	12.9	3.6	9.0	3.6			5					Iodine retension system (Hopcalite and Charcoal filters plus misc.)
---	---	03/29/67	7920	N	4	B	T 168	CM-244						2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
---	---	03/27/70	7920	N	4	B	T 129	CM-244			1000			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
---	---	06/24/70	7920	N	4	B	T 166	CM-244			2600			2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
---	---	03/07/74	7920	N	4	R	T 3	CM-244			400		150	2.0	3.6	.0	8.4	1.6	63	63	1		Pb			Generic cell waste (possible lead)
---	---	08/21/73	7920	N	3	R	T 3	CM-244			15		5	.5	13.5	.1	.8	.1				2	Pb			Two Sample Racks (lead bricks used to balance rack)
---	---	10/22/75	7920	N	4	R	T 9	CM-244			130		80	.5	13.5	.1	.8	.1				1	Pb			Processing Rack RR-6 (lead bricks used to balance rack)
---	---	10/24/75	7920	N	4	R	T 9	CM-244	.14	.14	220		150	.5	13.5	.1	.8	.1				1	Pb			Processing Rack RR-5 (lead bricks used to balance rack)
---	---	10/04/70	7920	N	3	B	T 186	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
---	---	10/11/70	7920	N	3	B	T 188	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
---	---	10/22/70	7920	N	3	B	T 188	CM-244			5			1.5	4.5	4.5	15.0	3.0	2						Wood	Floor cask (contains bags and/or poly buckets and/or paint cans)
---	953	11/22/74	3525	N	3	R	T 5	UNID			300			.0	5.3	.7	.7	.3			4					Two HEPA filters, two Pre-filters, coveralls, gloves, etc.

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