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Author(s): Hargis, Kenneth M.

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Corrugated Metal Pipes Category of Transuranic Waste Stored Below Ground within Area G



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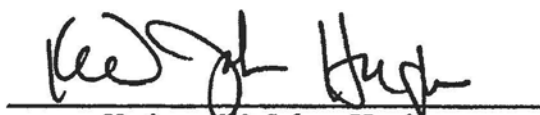
Corrugated Metal Pipes Category of Transuranic Waste Stored Below Ground within Area G

Approvals:



Daniel R. Cox

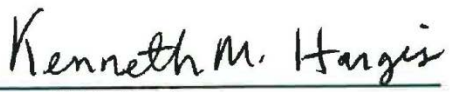
Deputy Associate Director for Environmental Programs



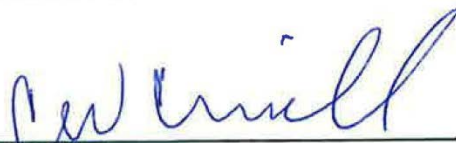
Kathryn W. Johns-Hughes

Program Director, LANL TRU Program

Prepared by:


Kenneth M. Hargis
LTP-PTS

Reviewers:


Charles W. Criswell
LTP-PTS


Thomas M. Monk
LTP


Kathryn M. Roberts
REG-SP

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Abbreviations and Acronyms

AEC	Atomic Energy Commission
BG	below ground
CBFO	Carlsbad Field Office, U.S. Department of Energy
CCP	Central Characterization Project
CFR	Code of Federal Regulations
CH	contact handled
CH-TRAMPAC	Contact-Handled Transuranic Waste Authorized Methods for Payload Control
CMB-11	Chemistry and Metallurgy Group
CMP	corrugated metal pipe
Consent Order	New Mexico Environment Department Compliance Order on Consent
Cs-137	cesium-137
DOE	U.S. Department of Energy
ft	feet
ft ³	cubic feet
FY	fiscal year
gal	gallon
GPR	ground penetrating radar
H-7	Industrial Waste Management Group
HE-RTR	High-Energy Real Time Radiography unit
in	inch
l	liter
LAFO	Los Alamos Field Office
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
lb	pound
m ³	cubic meters
MAR	material at risk
MDA	Material Disposal Area
MFP	mixed fission products
mR/hr	millirad per hour
nCi/g	nanocuries per gram
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
psi	pounds per square inch
PE-Ci	plutonium-239 equivalent curies

Pu-238	plutonium-238
Pu-239	plutonium-239
RCRA	Resource Conservation and Recovery Act
RH	remote handled
RLWTF	radioactive liquid waste treatment facility
RSWD	Radioactive Solid Waste Disposal Record
SuperHENC	Super High Efficiency Neutron Counter unit
SWB	standard waste box
TA	Technical Area
TRU	transuranic
U-233	uranium-233
U-235	uranium-235
U-238	uranium-238
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant

1. Executive Summary

The primary regulatory driver for environmental cleanup at the Los Alamos National Laboratory (LANL) is the March 2005 Compliance Order on Consent (Consent Order), an agreement between LANL and the New Mexico Environment Department (NMED) that contains specific requirements and schedules for cleaning up historical contamination at the LANL site. The Consent Order has a final deliverable date of December 2015 (Reference 1). The Consent Order does not address requirements for removing transuranic (TRU) waste from the LANL site; therefore TRU waste removal was typically placed at lower priority in budget decisions. Removal of TRU waste stored both above ground and below ground at Technical Area 54 (TA-54) Area G is required before a remedy is implemented under the Consent Order for Material Disposal Area G (MDA G, which is the below-ground portion of Area G). After the Las Conchas Fire burned large areas near Los Alamos in 2011, New Mexico Governor Susana Martinez asked the U.S. Department of Energy (DOE) to provide sufficient funding for cleanup of defense legacy wastes from LANL and for TRU waste disposal at the Waste Isolation Pilot Plant (WIPP). Discussions were held with the NMED on accelerating TRU waste removal from LANL.

In January 2012, the DOE National Nuclear Security Administration (DOE/NNSA) and the NMED announced the issuance of the *Framework Agreement: Realignment of Environmental Priorities* (Framework Agreement). The Framework Agreement is a non-binding agreement that outlines DOE/NNSA commitments to further accelerate TRU waste disposition at LANL (Reference 2). Commitments under the Framework Agreement related to TRU waste include:

- Removal of all non-cemented above-ground TRU waste stored at Area G as of October 1, 2011, by no later than June 30, 2014. This inventory was defined as 3,706 cubic meters (m³) of material;
- Removal of all newly-generated TRU waste received in Area G during Fiscal Years (FY) 2012 and 2013 by December 31, 2014;
- Based on projected funding profiles, develop by December 31, 2012, a schedule with pacing milestones for disposition of below-ground TRU waste requiring retrieval at Area G; and
- Removal of the above-ground cemented TRU waste in an efficient and effective manner protective of human health and safety of workers and the public.

Within the schedule for disposition of below-ground (BG) TRU waste submitted to the NMED in December 2012, the DOE/NNSA determined that there are seven below-ground waste unit categories within MDA G that potentially contain TRU waste that may require retrieval (Reference 3). These seven categories were identified as (1) Pit 9; (2) Trenches A-D; (3) Corrugated Metal Pipes (CMPs); (4) Hot Cell Liners; (5) Tritium Packages; (6) 17th RH Canister; and (7) the 33 Shafts. The seven categories have an approximate total volume of 2,399 m³ and approximate radioactive Material at Risk (MAR) of 110,751 plutonium-239 equivalent curies (PE-Ci). Of these seven categories, approximately 99.86% of the waste volume and approximately 99.9% of the MAR is contained within the first six categories. The DOE/NNSA concluded that these first six categories may include below-ground TRU waste that requires retrieval.

The DOE/NNSA committed to disposition of the below-ground TRU waste in the first six categories no later than September 30, 2018, and will work to meet cumulative pacing milestones to disposition 250 m³ by September 30, 2015; 1,000 m³ by September 30, 2016; 1,750 m³ by September 30, 2017; and 2,395 m³ by September 30, 2018.

For the 33 Shafts, DOE/NNSA will complete (1) a determination as to whether this category contains TRU waste that requires retrieval; and (2) to the extent necessary, its decision process under the National Environmental Policy Act (NEPA) regarding retrieval, by no later than September 30, 2015.

Detailed planning has begun on retrieval and processing of the other six categories of below-ground TRU waste, with Trenches A-D, Pit 9 and the CMPs as the categories to be retrieved and processed for disposition first. Because the CMPs present less of a challenge in terms of both retrieval and processing, it is likely that the CMPs will be the first category to be retrieved and processed for disposition.

The CMPs waste unit category consists of a total of 158 corrugated metal pipes filled with cement from a batch treatment process that mixed Portland cement with several liquid waste streams containing americium and plutonium at the TA-21 Building 257 (21-257) Radioactive Liquid Waste Treatment Facility (RLWTF). Each CMP is 20 feet (ft) long with a diameter of 30 inches (in). About 95% of the cemented liquid waste came from an americium processing operation at the DP West plutonium processing facility. The CMPs were filled with cemented waste from late 1975 to 1978 and maintained in a vertical configuration in a pit at MDA T (adjacent to Building 21-257) at TA-21. The CMPs were retrieved from storage, decontaminated, painted, and transported to TA-54 Area G in 1986. The 158 CMPs were placed in two horizontal rows end-to-end and stacked two high at the top of the east end of Pit 29. After all of the CMPs were placed, they were covered with plywood and tarps and about six feet of soil. Sometime after the CMPs were placed into storage, an access road was constructed above Pit 29 and a portion of the CMPs are believed to be located beneath the road.

This report summarizes available information on the origin and composition of the CMPs, their physical and radiological characteristics, and issues that may be encountered in the retrieval and processing of the CMPs. Review of this information indicates that the CMPs should present no major issues in retrieval and processing, and that the CMPs contain TRU waste that can be shipped to WIPP. The most likely issue that will be encountered is the potential for free liquids in the CMPs, possibly due to dewatering of the cement in the CMPs.

2. Introduction

2.1 Purpose and Introduction

Purpose of Report. This report presents a general description of categories of TRU waste in below-ground storage configurations at LANL TA-54 MDA G (the below-ground portion of Area G), with a detailed description of the CMP category of below-ground TRU waste. The report is intended to support work packages or Statements of Work for subcontracting task orders for retrieval and processing of the CMPs for disposition. Information is presented on the historic source of the waste stored in the CMPs, the configuration of the CMPs in storage, and characteristics of the CMP waste category.

Framework Agreement. A large wildfire called the Las Conchas Fire burned more than 150,000 acres south and west of LANL in late June and July 2011. The fire came within about 3.5 miles of TA-54, Area G, which is the primary location where LANL manages solid radioactive waste, and heightened public concern and news media attention on TRU waste storage at Area G. Following the fire, New Mexico Governor Susana Martinez asked the DOE to provide sufficient funding for cleanup of defense legacy wastes from LANL and for TRU waste disposal at WIPP.

The primary regulatory driver for environmental cleanup at LANL is the Compliance Order on Consent, a 2005 agreement between LANL and the NMED that contains specific requirements and schedules for cleaning up historical contamination of the LANL site, and has a final deliverable date of December 2015 (Reference 1). The Compliance Order on Consent does not address requirements and deliverables for removing TRU waste from the LANL site, which placed TRU waste removal at a lower priority in budget decisions. Removal of TRU waste stored above ground at Area G and below ground within pits, shafts, and trenches within MDA G is required before a remedy for cleanup of MDA G can be implemented under the Consent Order. After the Las Conchas Fire, discussions were held with the NMED on accelerating TRU waste removal from LANL.

In January 2012, the DOE/NNSA) and the State of New Mexico Environment Department (NMED) announced issuance of the *Framework Agreement: Realignment of Environmental Priorities*. The Framework Agreement is a non-binding agreement that outlines DOE/NNSA commitments to further accelerate TRU waste disposition at LANL (Reference 2). Commitments under the Framework Agreement related to TRU waste include:

- Removal of all non-cemented above-ground TRU waste stored at Area G as of October 1, 2011, by no later than June 30, 2014. This inventory was defined as 3,706 cubic meters (m³) of material;
- Removal of all newly-generated TRU waste received in Area G during FYs 2012 and 2013 by December 31, 2014;
- Based on projected funding profiles, develop by December 31, 2012, a schedule with pacing milestones for disposition of below-ground TRU waste requiring retrieval at Area G; and
- Removal of the above-ground cemented TRU waste in an efficient and effective manner protective of human health and safety of workers and the public.

Within the schedule for disposition of below-ground TRU waste submitted to the NMED in December 2012, the DOE/NNSA determined that there are seven below-ground waste unit categories within MDA G that potentially contain TRU waste that may require retrieval (Reference 3). These seven categories were identified as (1) Pit 9; (2) Trenches A-D; (3) Corrugated Metal Pipes; (4) Hot Cell Liners; (5) Tritium Packages; (6) 17th RH Canister; and (7) the 33 Shafts. The seven categories have an approximate total volume of 2,399 m³ and approximate radioactive MAR of 110,751 plutonium-239 equivalent curies (PE-Ci). Of these seven categories, approximately 99.86% of the waste volume and approximately

99.9% of the MAR is contained within the first six categories. The DOE/NNSA concluded that these first six categories may include below-ground TRU waste that requires retrieval. For the remaining category, the 33 Shafts (which have a total approximate volume of 3.4 m³ and total MAR of 97 PE-Ci), additional evaluation is warranted.

The DOE/NNSA committed to disposition the below-ground TRU waste in the first six categories no later than September 30, 2018, and will work to meet cumulative pacing milestones to disposition 250 m³ by September 30, 2015; 1,000 m³ by September 30, 2016; 1,750 m³ by September 30, 2017; and 2,395 m³ by September 30, 2018. For the 33 Shafts, DOE/NNSA will complete (1) a determination as to whether this category contains TRU waste that requires retrieval; and (2) to the extent necessary, its decision process under NEPA regarding retrieval, by no later than September 30, 2015

2.2 Background

Historical Perspective. Radioactive waste has been generated at LANL since the 1940's during research and development activities for nuclear weapons, nuclear reactors, and plutonium science. Historically, radioactive waste was buried in shallow landfills at LANL called Material Disposal Areas or MDAs; MDA G at TA-54 (below-ground portion of Area G) first received radioactive waste in 1957 and has served as the primary radioactive solid waste management facility at LANL since 1959 (Reference 4). Figure 1 shows a high-level aerial photograph of TA-54 Area G and location of Area G on a map of LANL technical areas and the surrounding area. MDA G underlies most of the portion of Area G shown in the aerial photograph.

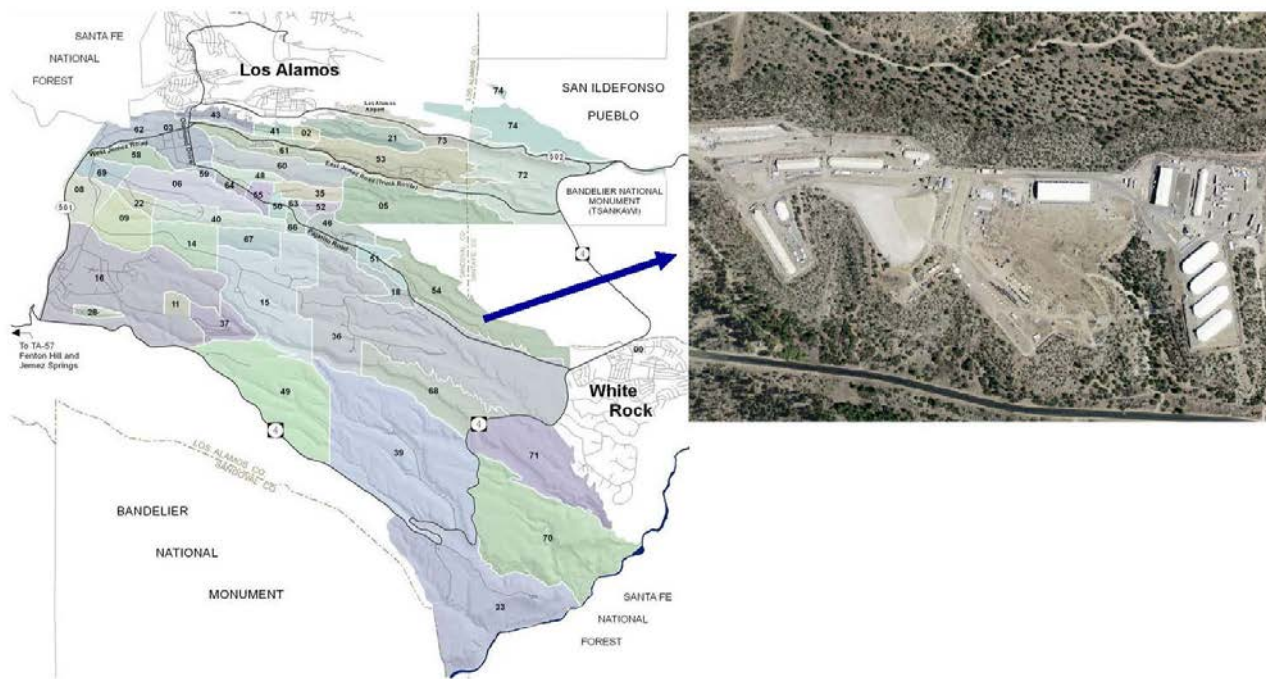


Figure 1. Location and Aerial Photo of TA-54 Area G

In 1970, the Atomic Energy Commission (AEC) issued Immediate Action Directive 0511-21 that directed AEC sites to segregate wastes with “known or detectable concentrations of transuranium nuclides” and that such wastes be “packaged and buried in such a fashion that they can be readily

retrievable as contamination-free packages within an interim period of 20 years; beyond that period retrievability should continue to be possible” (Reference 5). This waste was to be stored for disposition in a future deep geologic repository (ultimately, WIPP).

The segregation limit for TRU waste was changed in 1973 with issuance of the *Atomic Energy Commission Manual*, Chapter 0511, “*Radioactive Waste Management*” to material contaminated with certain alpha-emitting radionuclides and activity greater than 10 nanocuries per gram (nCi/g) for plutonium-239 (Pu-239) and uranium-233 (U-233). Both Pu-238 and Pu-241 were excluded unless indicated by Pu-239 impurities or when required by local burial criteria (LANL established a segregation limit for Pu-238 of 100 nCi/g). The value of 10 nCi/g was derived from the upper range of concentrations of radium-226 in the earth and was “subject to modification based on long-term studies of nuclide migration in soil” (Reference 6). In 1982, the TRU waste segregation limits were changed to 100 nCi/g for all TRU isotopes with a half-life of 20 years or longer (including Pu-238) by DOE Order 5820.1, *Management of Transuranic Contaminated Material* (Reference 7).

Like a number of DOE sites, LANL initially developed storage configurations for TRU waste that involved placing the waste containers in trenches, pits, and shafts that were excavated into the ground surface (Reference 4). LANL also began storing TRU waste in large fabric-covered storage domes in 1985 (white structures in the aerial photograph in Figure 1). By the time that WIPP opened in 1999, LANL had built up an inventory of about 9,100 cubic meters (m³) of TRU waste at Area G, with about 2,416 m³ stored below ground in trenches, pits, and shafts and about 6,700 m³ stored above ground (Reference 8). Newly-generated TRU waste also continues to be managed at Area G.

TRU Waste Disposition. Through December 31, 2012, LANL shipped a total of 5,250 m³ of TRU waste to WIPP. A total of 1,022 m³ of TRU waste that was reclassified to MLLW after radioassay showed TRU isotope concentrations less than 100 nCi/g was also shipped off-site to commercial facilities for treatment and disposal at the Nevada National Security Site (NNSS), formerly the Nevada Test Site. Total disposition of TRU waste through December 31, 2012, was 6,272 m³. There isn’t a one-to-one correlation between TRU waste volumes shipped to WIPP, or reclassified and shipped as MLLW, and inventory reduction because some containers were over-packed into standard waste boxes or repackaged into multiple drums because of their high activity.

The LANL TRU Program is currently engaged in a campaign to ship 3,706 m³ of higher risk TRU waste stored above ground by June 30, 2014, and will also complete shipment of all newly-generated TRU waste received in FYs 2012 and 2013 by December 31, 2014.

Although the focus of shipments of TRU waste from LANL to WIPP has been on TRU waste stored above ground, LANL retrieved and shipped below-ground RH waste in 16 shafts (Shafts 236-243 and 246-253) with a total volume of about 17 m³ to WIPP in 2009. All other waste segregated and stored below ground as TRU waste remains below ground.

Below-Ground TRU Waste. Figure 2 presents a high-level aerial photograph of MDA G with locations of the seven remaining below-ground waste unit categories. These locations are shaded in red and labels identify the seven waste unit categories.

Table 1 presents a summary of the seven TRU waste unit categories stored below-ground at MDA G. The last row of the table is shaded yellow because DOE/NNSA will complete (1) a determination whether the 33 Shafts category contains TRU waste that requires retrieval, and (2) to the extent necessary, its decision process under NEPA regarding retrieval, by no later than September 30, 2015. Table 1 provides a general description of each category, the approximate volume of each category and

the percentage each category makes up of the total volume of the seven below-ground categories, and the approximate MAR of each category and the percentage each category makes up of the total MAR of the

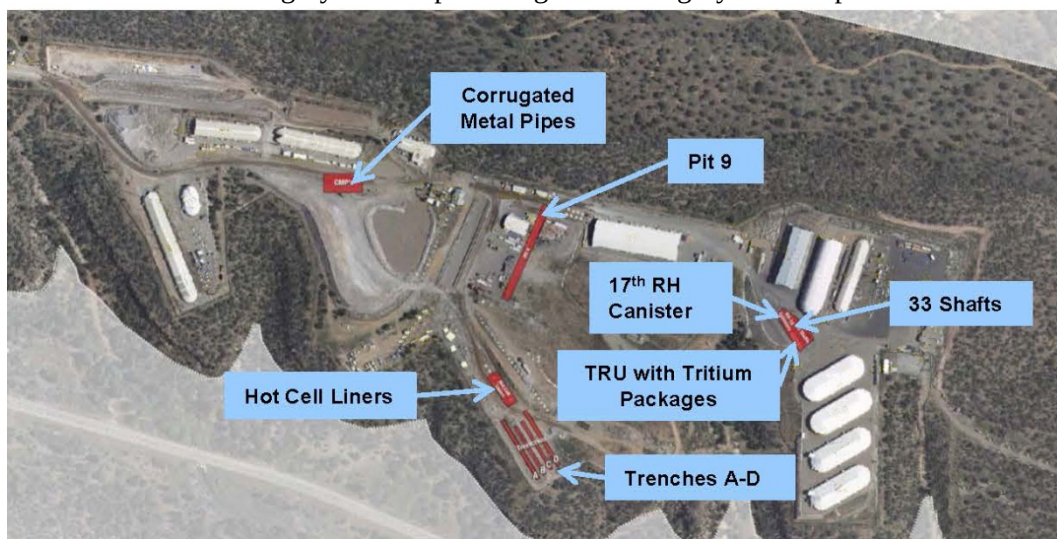


Figure 2. Aerial Photo of Area G with Below-Ground TRU Waste Storage Areas Shaded in Red

seven below-ground categories. The first six categories (Pit 9, Trenches A-D, CMPs, Hot Cell Liners, Tritium Packages, and 17th RH Canister) that are scheduled to be retrieved and dispositioned in the FY 2015 to FY 2018 period, make up 99.84% of the total volume and 99.92% of the total MAR of the seven categories. The 33 shafts make up only 0.14% of the total volume and 0.09% of the total MAR of the seven below-grade categories.

TABLE 1
Overview of Below-Ground TRU Waste Categories

Waste Category	General Description	Approximate Volume (m ³)	Percentage Total Volume	Approximate MAR (PE-Ci)	Percentage Total MAR
Pit 9	3,881 55-gallon, 30-gallon, and 85-gallon drums and 197 Fiberglass-Reinforced Plywood boxes	1,560	65.0	6,019	5.4
Trenches A-D	720 30-gallon drums in 4 trenches	335	14.0	93,870	84.8
Corrugated Metal Pipes (CMPs)	158 CMPs, each ~ 30 in. diameter x 20 ft long, located above Pit 29	442	18.4	10,755	9.7
Hot Cell Liners	5 Shafts with glovebox liners from hot cells, each in a steel box 6 ft x 6 ft x 10 ft long (Shafts 302-306)	51	2.1	0.5	0.0005
Tritium Packages	4 tritium packages, each containing three 55-gallon drums, and 1 tritium tank that is 20 ft long (Shafts 262-266)	6.7	0.3	8	0.01
17 th RH Canister	Canister containing 3 55-gal. drums (Shaft 235)	1	0.04	1.5	0.001
33 Shafts	32 Lined Shafts with pipes containing 1- or 2- gallon cans of hot-cell debris; 1 shaft with reactor vessel (Shafts 200-232)	3.4	0.14	97	0.09
Total		2,399	100%	110,751	100%

It is important to note that the volumes shown in the table are not the volumes that will be characterized and shipped to WIPP. Some containers in the waste unit categories may be determined to be LLW or MLLW that would not be dispositioned at WIPP. Some containers with high MAR such as those in the Trenches A-D waste category are expected to be repackaged and produce a number of daughter drums, while other containers such as the oversize boxes in Pit 9 are expected to result in a much smaller volume that will be shipped to WIPP.

The values shown for MAR are also expected to change as containers are retrieved and processed for disposition. The Environmental Protection Agency (EPA) approved assay methods used for WIPP characterization may produce different values than the historical methods used by the waste generators during the period when the containers in these waste categories were generated.

Figure 3 presents LANL's planned TRU waste disposition timeline for all TRU waste stored at MDA G based on the Framework Agreement, current budget targets and the schedule for below-ground TRU waste that was submitted to the NMED in December 2012 (Reference 3). Major milestones for TRU waste disposition in the timeline consist of completion of the 3,706 m³ Campaign for higher-risk above-ground TRU waste by June 30, 2014; completion of disposition of newly-generated TRU waste received in FYs 2012 and 2013 by December 31, 2014; removal of the lower-risk (non-3706 Campaign) above-ground TRU waste by September 30, 2016; and completion of disposition of all below-ground TRU waste categories except the 33 Shafts by September 30, 2018. Analyses would be completed and a Federal Decision whether to retrieve the 33 Shafts category of below-ground TRU waste would be completed by September 30, 2015. If a decision is made that the 33 Shafts category requires retrieval, then a capital project is expected to be required to implement this decision and this project may not be completed until FY 2022.

LANL currently plans to begin retrieval of below-ground TRU waste during FY 2014 with the CMP category. The CMP category is expected to present fewer challenges for retrieval and processing because of the configuration and characteristics of the waste. With a total estimated volume of 442 m³, the CMP category also contains more than sufficient volume to achieve the commitment for disposition of at least 250 m³ of below-ground TRU waste by the end of FY 2015.

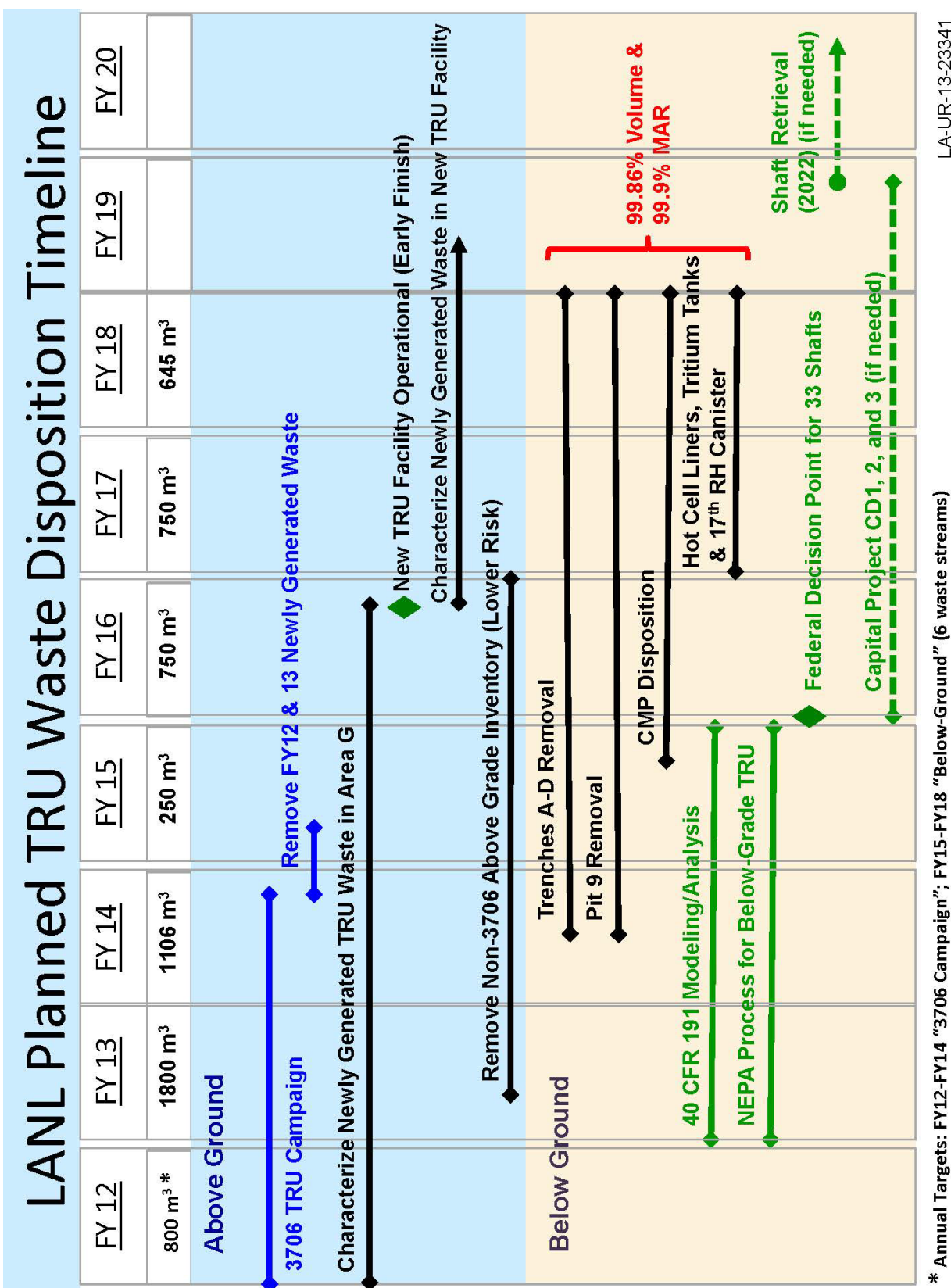


Figure 3. LANL Planned TRU Waste Disposition Timeline

3. Origin of CMP Waste

The CMP waste unit category consists of a total of 158 corrugated metal pipes filled with cement from a batch treatment process that mixed Portland cement with several liquid waste streams containing americium and plutonium at the TA-21 RLWTF (Building 21-257).

Building 21-257 received and treated liquid wastes from the DP West and DP East processing areas at TA-21, but the waste streams that were cemented all came from the DP West plutonium processing facility at TA-21. The liquid wastes from the DP East processing area also were low in activity at that time. Most liquid wastes were piped to storage tanks at 21-257, but acidic waste from americium recovery activities at DP West was transported in a tank mounted on a trailer and vacuum transferred to a stainless steel storage tank. By volume, most liquid waste coming to 21-257 was chemically treated using a ferric hydroxide precipitation process that produced a ferric hydroxide-calcium carbonate sludge. Several waste streams that were not amenable to the chemical treatment process were mixed with Portland cement to create a solid waste for disposal. The sludge from the chemical treatment process was also mixed with Portland cement for disposal (References 9 to 13).

The waste streams that were not amenable to the chemical treatment process consisted of Am-241 wastes that had been neutralized with sodium hydroxide (which had levels of contamination that were too high for processing in the chemical treatment process), potassium hydroxide (KOH) waste from neutralization of off-gases from a hydrogen fluoride scrubber in a crucible dissolving operation, "strip waste" from a uranium extraction process, and small volumes of miscellaneous liquid wastes (Reference 11). Radioactivity due to Am-241 represented more than 95% of the alpha activity in wastes received at the facility and was concentrated in the waste from americium recovery (Reference 10).

In 1968, a "pug mill" was installed for more effective mixing of the cement with the neutralized Am-241 waste, plant sludge, and other wastes to be cemented. The pug mill was a large, horizontal, rubber-lined mixer with a number of separate paddles attached to two shafts that rotated inside the tank to mix and moved the contents from an inlet at one end to an outlet at the other. Photographs of the pug mill are shown in Figure 4, with a worker standing behind the pug mill in the photo on the left and a photo of the pug mill with the cover removed in the photo on the right. Liquid waste was pumped into the inlet of the tank from a pug mill feed storage tank and Portland cement was injected into the same end of the tank through a screw conveyor from a cement silo. The liquid waste and cement were mixed by the paddles as the mixture traveled the length of the mill, and the mixture dropped into a hopper for a pump at the other end of the tank. The cement paste from the pug mill was pumped through a fire hose to vertical shafts or pits that were drilled into the ground surface at MDA T for the first seven years of operation.

A process flow diagram of the pug mill system with capacities of storage tanks is shown in Figure 5 (from Reference 10). In this diagram, the Am-241 waste stream is referred to as "Intermediate Level ^{239}Pu and ^{241}Am Wastes" and the plant sludge is referred to as "Low-Level Waste Treatment Sludge." Pug mill runs contained a mixture or blend of the various waste streams to be cemented, and generally consisted of about 5,000 to 6,000 liters (l) of the feed liquid. Cement was added at a rate of about 130lb/min (59 kg/min), and the liquid waste was pumped into the pug mill at a rate of about 23 to 34 l/min. The rate of feed of both liquid waste and cement could easily be adjusted to maintain a good mix (Reference 9). Tap water was used to wash the pug mill feed tank and sight glass on the side of the tank, and this usually made up a few percent of the feed solution to the pug mill.

For each pug mill run, a sample of the pug mill feed liquid was collected for radiochemical analysis and a sample of cement paste was collected for leach testing and determination of the compressive strength of the cement as a measure of the stability of the cement paste after it had cured or hardened. Samples of



Figure 4. Pug Mill for Cementing Wastes at Building 21-257

pug mill feed solutions were transported to TA-50 Building 1 for analysis of gross alpha, gross beta, gross gamma, Pu-238, Pu-239, Am-241, Cesium-137, and Strontium-90.

The compressive strength tests on the cement paste samples were performed at Building 21-257, and used a 6 in-diameter by 1 ft-high cylindrical sample of the cement paste mix. The test cylinders for compressive strength were cured underwater for 28 days before testing. The ends of the test cylinder

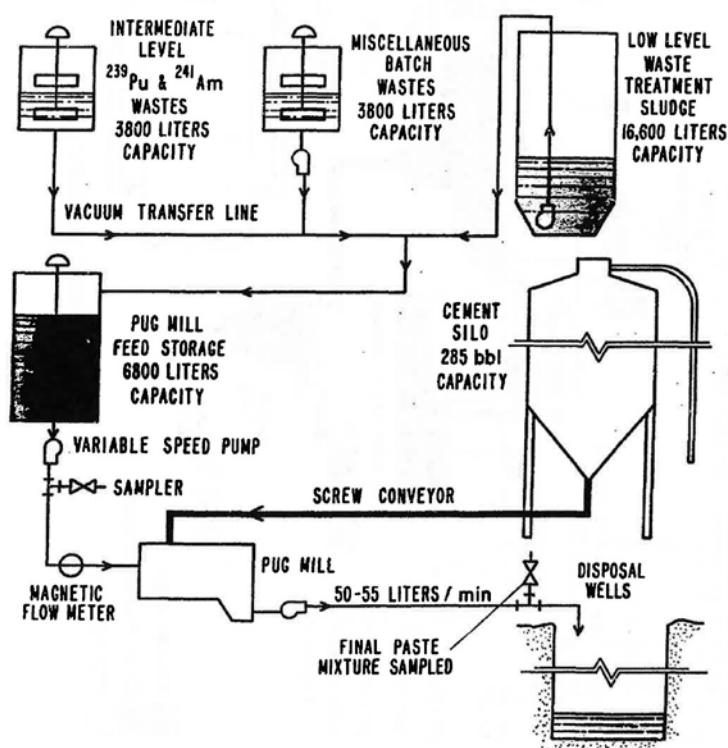


Figure 5. Process Flow Diagram of Pug Mill System

were capped with a standard lead compound to ensure flatness and parallelism before breaking the test cylinder in the compression test (Reference 13). Figure 6 has a 1978 photograph of a worker at 21-257 performing a compression test on a cured cement sample of cement paste from a pug mill run.



Figure 6. Performing Compression Test on Cured Cement Paste Sample

4. Segregation of Cement Paste as Retrievable Waste

After the AEC directive to segregate waste with transuranic isotopes, an evaluation was performed on waste streams that were received at Building 21-257 and methods to segregate wastes that might require retrievable storage. Segregation limits at that time for waste that required retrievable storage at LANL were 10 nCi/g of Pu-239 and/or 100 nCi/g of Pu-238 (Reference 10). The neutralized americium waste stream contained mg/l quantities of Am-241 and Pu-239 and the waste resulting from cementing this waste stream would always exceed the segregation limits. In any mix of waste streams in which americium was present, the resultant cement paste had an activity considerably above 10 nCi/g of TRU. However, where the americium waste was not present in the mix, the activity level of the cement paste was often below 10 nCi/g Pu-239 and 100 nCi/g of Pu-238 (Reference 10).

A decision was made to always segregate cement paste produced from the americium waste as retrievable cement paste, and to measure the activity of each batch of the other waste streams to be cemented to determine if they should be used as part of the feed solution for retrievable cement paste. The November 1975 *Standard Operating Procedure for Disposal of Retrievable and Nonretrievable Cement Paste in Area T, TA-21-257* (Reference 14) contains specific guides (gross alpha levels) for plant sludge, raw KOH solutions, and strip solutions to determine whether or not they would be used as part of the feed solution for the retrievable cement paste. All americium solutions were to be used to generate retrievable cement paste because of their high Am-241 and Pu-239 contents, and the SOP did not require samples of the americium solutions to be collected for gross alpha analysis.

The use of lined 55-gallon drums for retrievable storage of the retrievable cement paste was first proposed, but was determined to be too costly. About 50 drums would be required per pug mill run and construction of a drum filling system would be required. The use of forms or molds to create cement paste blocks was also evaluated. The method that seemed to be the most reasonable in cost and require minimum handling of the packages was use of galvanized 20-ft x 30 in diameter CMPs with continuous welded seams and non-radioactive concrete plugs about 12 in thick poured into the ends (Reference 10). This method was accepted after a test of a cement-paste-filled CMP demonstrated that the CMP could be retrieved and that the CMP maintained its integrity during retrieval (Reference 15).

A portion of MDA T was set aside as a Retrievable Waste Storage Area and a pit was excavated to a depth of 20 feet in this area. Forty empty CMPs were initially placed into a vertical array within this pit (Reference 15) and additional CMPs were added as needed. Pieces of rebar were welded between CMPs at the top to hold the CMPs in a vertical configuration. A new fence was also constructed around the area in June 1975 (Reference 15). A plug about 1 ft thick of non-radioactive concrete obtained from a concrete batch plant was placed into the bottom of each of the CMPs. Beginning in September 1977, the CMPs that were filled had a 16 gauge metal plate welded to the bottom (Reference 16). A photograph of the vertical CMP array taken from the bottom of the pit in 1978 is shown in Figure 7.

The 21-257 plant operator was responsible for knowing the volumes of each type of waste to be cemented that was in storage and the respective alpha radioactivity of each type based on a 10 ml sample that was dried and counted for gross alpha by the operator. Where the alpha activity of the plant sludges, KOH solutions, strip solutions, or miscellaneous wastes exceeded the values for retrievable waste, those solutions that exceeded the values for retrievable waste were blended with the americium solutions to create a pug mill feed for retrievable cement paste to be pumped into CMPs. Where those solutions did not exceed the gross alpha values for each type of solution for retrievable waste, the solutions were not blended with the americium solutions. Instead they were blended for feed into the pug mill for non-retrievable cement paste that continued to be pumped to shafts in MDA T (Reference 14).



Figure 7. CMPs In Retrievable Waste Storage Area at MDA T

Records were compiled for each pug mill run that identified them as either retrievable or non-retrievable and listed the volumes of each type of waste stream that made up the feed for the pug mill run. In practice, a pug mill run of non-retrievable waste was usually started immediately after the feed for the retrievable pug mill run was completed. The fire hose continued to be discharged into the CMP for about 10 minutes after the non-retrievable pug mill run began so that the volume of retrievable cement paste that remained in the fire hose was placed into the CMP. The fire hose was then transferred to a shaft and the cement paste from the non-retrievable pug mill run was discharged into the shaft. At the conclusion of the non-retrievable pug mill run, the pug mill, discharge pump, and fire hose were rinsed with tap water and flushed into a shaft. This rinse water was allowed to stand for 24 to 48 hours to allow solids to settle in the shaft, and the supernatant was then pumped to the 21-257 raw waste storage tanks using a submersible pump (Reference 14).

For retrievable pug mill runs, cement paste from the pug mill was pumped into a CMP up to about a foot from the top. After the cemented waste had set, “cold” (non-radioactive) concrete mix was used to fill the remaining space of the CMP and a metal identification tag was embedded into the surface of the concrete before it had hardened. The identification number of the CMP and the corresponding pug mill run were recorded. Figure 8 shows 1978 photos of filled and empty CMPs from the top of the array in the photo on the left and CMPs being filled in the photo on the right. Empty CMPs were covered with a plywood cover bolted to the CMP before they were to be filled. A yellow identification tag can also be seen on the top of two of the filled CMPs, and rebar connecting some CMPs can be seen at the left of the barrier with CMPs covered with plastic sheet. Based on cold concrete plugs of about 1 ft in length on both ends of the CMP, approximately 2,500 l of cement paste was placed into each CMP. Most retrievable pug mill runs generated enough cement paste to fill two CMPs and partially fill a third CMP (which was then filled in the next retrievable pug mill run). The result is that about 70% of the 158 CMPs in the CMP TRU waste category received cement paste from one pug mill run and about 30% of the CMPs received cement paste from two pug mill runs.

Appendix A contains pug mill data sheets for 1975 to June 1978 that include information on the volume of each type of liquid waste to the pug mill feed, operational data, radioactive constituents, and the identification number of CMPs that received waste from each retrievable pug mill run except one. Information for retrievable pug mill runs is highlighted in yellow. (Detailed pug mill data is not available for the last pug mill run that generated cement paste that filled or partially filled four CMPs.)



Figure 8. Filling CMPs with Retrievable Cement Paste (1978)

Overall, one of the 50 pug mill runs that generated cement paste within the 158 retrievably stored CMPs contained some plant sludge in the feed, one pug mill run contained some treated strip solution in the feed, and three included KOH solution in the feed solution. All of the other pug mill runs contained only neutralized americium in the waste feed or americium waste with a few percent miscellaneous waste in the feed solution.

Almost half of the retrievable pug mill runs received neutralized americium waste as the only waste stream in the feed. Neutralized americium solutions make up over 95% by volume of the pug mill feeds for the retrievable cement paste in all but four of the 50 pug mill runs that generated retrievable cement paste. This is contrary to a previous report with summary information on the CMPs (Reference 8), that indicated that the CMPs contained cemented wastewater treatment plant sludge. The detailed pug mill data sheets show that only one pug mill run that generated retrievably stored cement paste contained plant sludge.

The pug mill feed solution for the first retrievable pug mill run on December 31, 1975, consisted of a blend of about 20% plant sludge and 80% neutralized Am-241 solution by volume. The other three pug mill runs in which neutralized americium solutions made up less than 95% of the feed solution consisted of (1) a pug mill run in which “treated strip” solution made up approximately 22% and neutralized americium solution made up about 78% of the waste in the feed blend by volume; (2) a pug mill run in which raw KOH solution made up about 5%, miscellaneous waste solution made up about 1.5%, and neutralized americium solution made up about 94% of the waste in the feed blend by volume; and (3) a pug mill run in which raw KOH solution made up about 53%, miscellaneous solution about 1%, and neutralized americium solution made up about 47% of the waste in the feed blend by volume.

Plutonium and americium processing moved from DP West at TA-21 to TA-55 in early 1978, and the americium waste stream and other liquid waste streams that had been cemented in the pug mill were discharged to the TA-50 RLWTF after the TA-55 plutonium processing facility began operations (Reference 11). Some cement paste with TRU isotope contamination above 10 nCi/g continued to be generated at 21-257 and placed into CMPs until pug mill operations ceased in April 1983. However, the definition of TRU waste was changed in 1982 to 100 nCi/g for all TRU isotopes with a half-life of 20 years or longer. The first project to retrieve CMPs from MDA T was in 1984, and 69 CMPs that were determined to contain low-level radioactive wastes were retrieved and relocated to TA-54 MDA G (Reference 17). This left a total of 158 CMPs in the radioactive waste storage area at MDA T.

5. Retrieval and Transport of the CMPs to TA-54

A project to retrieve and transport the 158 CMPs in retrievable storage at MDA T to TA-54 Area G was initiated at the end of April 1986 and excavation of soil started July 21 of that year (Reference 18). The left side of Figure 9 contains a photo of the tops of some of the CMPs before excavation began. The right side of the figure shows a photo of the west end of the vertical CMP array after excavation of a pit so that CMPs could be removed from the array and laid down into the pit for soil removal and decontamination.



Figure 9. CMPs at Start of Retrieval from MDA T in 1986

Radiation surveys of the tops of CMPs showed that many CMPs had external radioactive contamination. A “scabbling gun” or scraper was used to clean the tops of the CMPs as shown in the photo on the left of Figure 10. Further cleaning was done using rags with “Fantastic” cleaner to remove loose contamination (Reference 19). Radiological swipe tests were performed on a continuous basis and plastic sheeting was used to cover the ground surface to prevent spread of contamination during decontamination activities. Rebar that had been welded to the top of CMPs to hold the array together was cut with a torch (Reference 18) and crowbars were used to pry CMPs apart so that a cable sling from a crane could be placed near the top of a CMP as shown in the photo on the right of Figure 10.



Figure 10. Preparation of CMPs for Removal from Vertical Array

The crane pulled a CMP away from the array as shown in the photo on the left of Figure 11, and the CMP was lowered onto plastic sheeting placed at the bottom of the pit for soil removal, cleaning, and additional decontamination of the sides and bottom of the CMP. Water spilled from several CMPs as they were removed from the array (Reference 18), but sampling and analysis of the water showed levels that were near the maximum permissible concentration of 4 nCi/l for CMPs # 3306 and 3308, and non-detectable for water from CMP # 3304. Several CMPs also had punctures in the side or were punctured during handling. After decontamination, CMPs were raised from the pit by the crane using a sling as shown in the photo on the right in Figure 11.



Figure 11. Removal of CMP from the Vertical Array

Some CMPs had high levels of contamination on their surfaces, and required extensive decontamination. The CMPs were placed under great stress when they were pulled away from the vertical position and lifted from the pit by the crane. Some CMPs stretched and bowed due to these stresses as shown in the photo on the left of Figure 12. Some CMPs also showed a small amount of rust at locations near the base of the CMP when standing in the vertical position. The CMPs with external contamination were painted after they were decontaminated to further reduce the possibility for removable contamination (as seen in the photo on the right in Figure 12). CMPs with punctures were repaired with silicone sealer and wrapped in black plastic. The crane also placed CMPs on a scale to obtain the weight of each CMP (Reference 18).

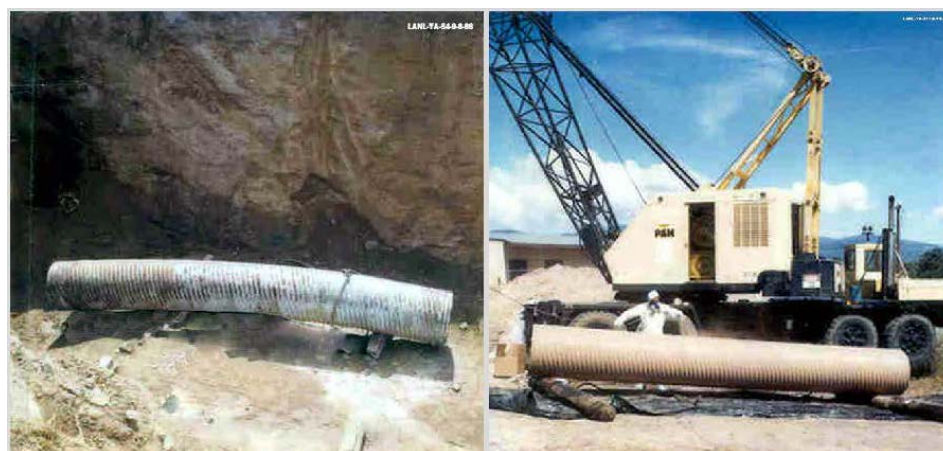


Figure 12. CMPs After Removal from the Vertical Array

The surface of the concrete plug of some CMPs that did not have a steel plate at the bottom was found to be crumbling on retrieval (Reference 18) as shown in the photo on the left of Figure 13. The ends of these damaged CMPs were repaired with a fast drying patching material called “Tiger Crete” (Reference 19). The end of a CMP that was repaired can be seen in the photo on the right of Figure 13.



Figure 13. Damaged End of CMP Before and After Repair

Cleaned and painted CMPs were staged at TA-21 and transport of the CMPs to TA-54 was initiated in early August 1986. Three CMPs were loaded on a flat-bed truck, covered with a tarp, and secured for transport. Transportation of the 158 CMPs to TA-54 was completed in early October 1986. The photo on the left of Figure 14 shows staged CMPs and the photo on the right shows CMPs loaded on a truck at TA-21.



Figure 14. CMPs Awaiting Transport and Loaded on Truck at TA-21

New Radioactive Solid Waste Disposal (RSWD) Record forms were completed for the CMPs before their acceptance at Area G. These forms replaced the RSWD forms prepared for the CMPs as they were filled at MDA T in 1975 through 1978. Information on origin of waste, waste code, volume and radionuclide content was transferred from the original form for each CMP, but new weights, date of disposal, and disposal/storage location were recorded. A copy of the 1986 RSWD form for each of the 158 CMPs is in Appendix B to this report.

At TA-54, CMPs were unloaded from a truck and placed into a horizontal array at the top of the southeast end of Pit 29 in MDA G using a forklift as seen in the photo on the left of Figure 16. The CMPs were placed in a configuration of two rows of CMPs placed end-to-end and stacked two high as shown in the photo on the right of Figure 15. After all 158 CMPs were in place (area of about 40 ft x 100 ft), the CMPs were covered with plywood, tarps, and about five to six feet of soil.

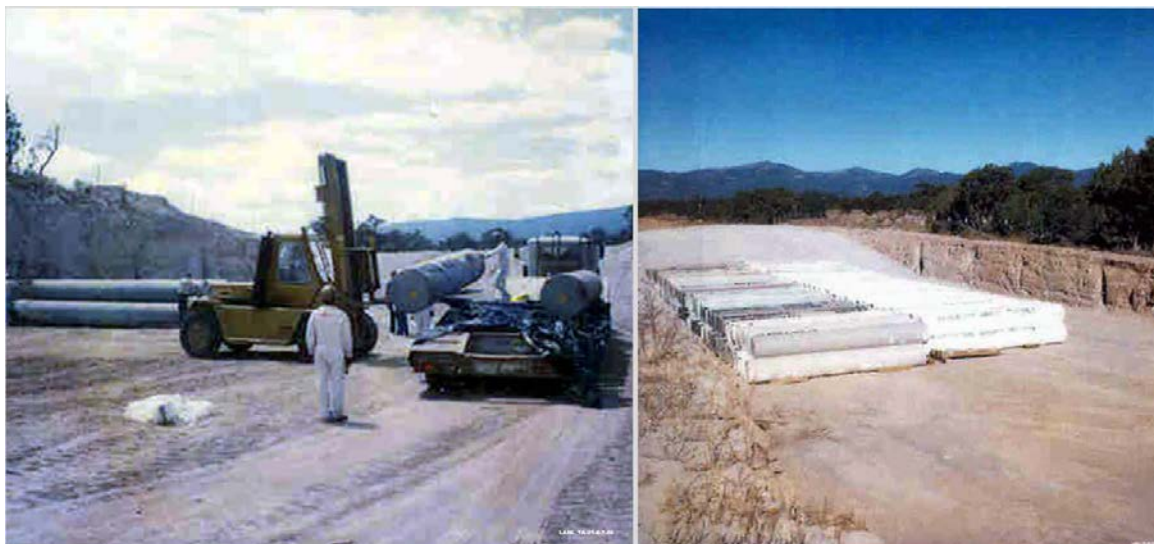


Figure 15. Unloading and Placement of CMPs at TA-54

There has been considerable development at Area G since 1986, including construction of a number of domes for storage of TRU waste containers and construction of a road that runs the length of Area G. This road lies on top of Pit 29 and it is likely that the CMPs are located just south of the road and partially under the road. Figure 16 shows the approximate location of the CMPs relative to the road and nearby structures (Domes 33 and 153) placed onto a 2011 aerial photo. North is up in the aerial photo. The location of the CMPs is based on a field study conducted in 2007 that included hand augering to try to locate the CMPs (Reference 20). A blue/white tarp and plywood were encountered at a depth of 5 to 6 ft at hand-augering locations that were above the CMPs. Location of the southeastern corner of the

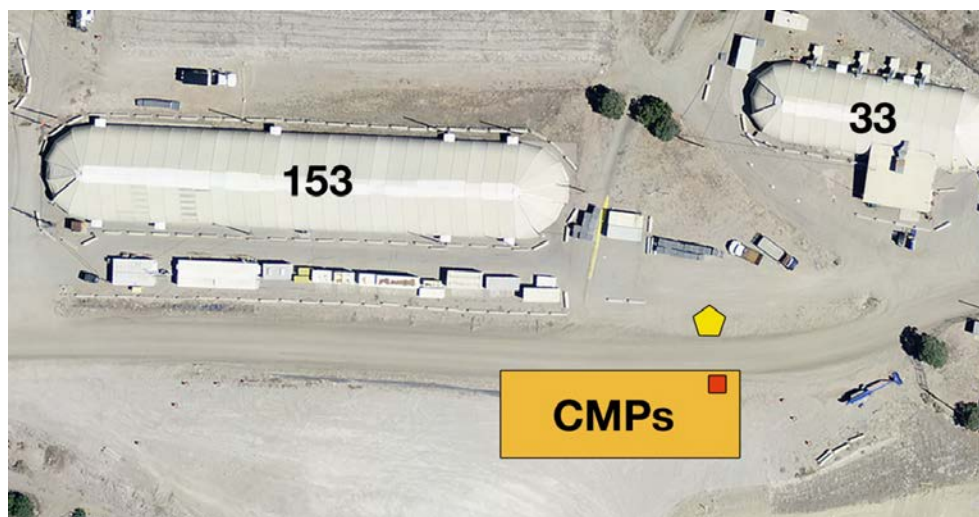


Figure 16. Approximate Location of CMPs Relative to Road and Nearby Structures

CMPs was accomplished by hand augering, but this was the only corner located as the northeastern and northwestern corners underlie the road. The southwestern corner was buried by an estimated 15 ft of stockpiled soils and was too deep to be located by hand augering (which had been approved to a depth of 10 ft).

The red square on the upper right corner of the CMPs area in Figure 16 is an electrical box on the ground surface that is thought to be part of the fire alarm system and drawings of this area show a line identified as "FA" running underground approximately parallel to the northern edge of the CMPs at this location. The yellow pentagon symbol in the figure shows the location of a fire hydrant that is across the road from the electrical box.

Figure 17 shows a photograph looking west from the approximate eastern edge of the CMPs location in July 2013. The rectangular box on the ground surface with three yellow pipes around it on the right side of the photo is the box thought to be associated with the fire alarm system (red square near upper right corner of CMPs rectangle in Figure 16). Dome 153 is across the road at the upper right of the photo. Most of the metal transportainer boxes shown across the road and south of Dome 153 in the aerial photo of Figure 17 have been removed. The thick gray line that stretches down the center of the photograph is a berm covered with plastic sheet. The left side of the photo also shows the rise in elevation of additional soil that has been placed above the southern portion of the CMPs. There are no structures located in the area above the area where the CMPs are believed to be located.



Figure 17. Photo of Ground Surface above CMPs in July 2013

6. Characteristics of CMP Waste

There are a number of sources of information on the CMPs and the characteristics of the waste within the CMPs. The most readily accessible information is that contained within the LANL TRU waste database. Other historical records are available that can be used to confirm information in the database and to augment or clarify that information. These include the raw data sheets for pug mill runs in Appendix A that include information on the volume of each type of liquid waste to the pug mill feed, operational data, radioactive constituents, and the identification number of CMPs that received cemented waste for each retrievable pug mill. Another important source of information is the RSWD record form for each CMP that was completed in 1986 as the CMPs were retrieved from MDA T and transported to Area G. The RSWD records are one-page forms that are available for all 158 of the CMPs, and these forms were compiled into a single file and are attached to this report as Appendix B. An attempt was also made to compile the original RSWD forms for CMPs as they were filled with cement paste at MDA T (and contain additional waste description, date the CMPs were filled, etc.), but only the forms for CMPs that were filled in 1975 and 1976 are available (the forms for CMPs filled in 1977 and 1978 could not be located.)

There are also a number of other sources of information, but most of these are also not complete with respect to all of the 158 CMPs. Most are available in the LANL Environmental Programs Records Management System, but only after considerable effort to search for individual records. Monthly summaries of solid waste generated at the 21-257 RLWTF were completed by the 21-257 plant engineer, and copies were located for about half of the months in which the CMPs were filled with cemented waste. These were compiled and provided in Appendix C. Memos that summarized cemented waste for a six-month period and included information on the CMPs were also completed by the 21-257 plant engineer. Copies of many of these were located for the period when the CMPs were filled, and these were compiled and are provided as Appendix D. A CMP Retrievable Storage Log was located for the period of December 31, 1975, through December 15, 1977, that includes information on the volume of cement paste and the initial depth and final depth of the cement paste in each CMP. This log is provided as Appendix E. Table 2 provides a summary of these sources of information that are available for each CMP in the appendices. Finally, there are other reports that provide very specific information relating to characteristics of the waste and these are referenced in the discussion.

6.1 Physical Characteristics

All reports and other sources of information that have dimensions of the CMPs state that the CMPs are 30 inches in diameter and 20 ft long or their metric equivalents. No source of information was found that indicated different dimensions. The CMP pipes that were purchased were galvanized metal pipes with continuous welded seams (Reference 12), and beginning with CMP ID # 1244 had a 16-gauge cap on the bottom (Reference 16). Approximately 64 of the 158 CMPs have a steel plate or cap on one end based on this reference, and these CMPs are identified in Table 3. A copy of a May 1978 Purchase Order for CMPs is also available that specifies 16 gauge CMPs with a 16 gauge plate welded to cap one end only (Reference 20).

Approximate gross weights of the 158 CMPs are shown in Table 3, which shows a range of 10,000 to 14,000 pounds (lb). The average weight based on the weights in the table is 12,650 lb. These values are based on weights in the LTP Container Management database, but were rounded to better reflect gross weights shown on the 1986 RSWD forms that were reported to 1/10 of a ton. Weights reported in a table attached to the field notes for the 1986 retrieval project when the CMPs were weighed (Reference 18) range from 12,000 to 14,000 lb with an average weight of 13,200 lb. The RSWD forms were also

TABLE 2
Available Information for Each of the CMPs

Package ID Number	Original CMP ID Number	Pug Mill Run Data Sheets	H-7 Monthly Summary	H-7 Six-Month Summary	Retrievable CMP Storage Log	RSWD Record	
						Orig.	1986
S863429	1150	✓		✓	✓	✓	✓
S863430	1151	✓		✓	✓	✓	✓
S863431	1157	✓		✓	✓	✓	✓
S863432	1158	✓		✓	✓	✓	✓
S863433	1159	✓		✓	✓	✓	✓
S863434	1152	✓		✓	✓	✓	✓
S863435	1153	✓		✓	✓	✓	✓
S863436	1154	✓		✓	✓	✓	✓
S863437	1155	✓		✓	✓	✓	✓
S863438	1156	✓		✓	✓	✓	✓
S863439	1163	✓		✓	✓	✓	✓
S863440	1164	✓		✓	✓	✓	✓
S863441	1165	✓		✓	✓	✓	✓
S863442	1169	✓		✓	✓	✓	✓
S863443	1173	✓		✓	✓	✓	✓
S863444	1174	✓		✓	✓	✓	✓
S863445	1160	✓		✓	✓	✓	✓
S863446	1161	✓		✓	✓	✓	✓
S863447	1162	✓		✓	✓	✓	✓
S863448	1166	✓		✓	✓	✓	✓
S863449	1167	✓		✓	✓	✓	✓
S863450	1168	✓		✓	✓	✓	✓
S863451	1170	✓		✓	✓	✓	✓
S863452	1171	✓		✓	✓	✓	✓
S863453	1175	✓		✓	✓	✓	✓
S863454	1178	✓		✓	✓	✓	✓
S863455	1177	✓		✓	✓	✓	✓
S863456	1176	✓		✓	✓	✓	✓
S863457	1179	✓	✓		✓	✓	✓
S863458	1180	✓	✓		✓	✓	✓
S863459	1181	✓	✓		✓	✓	✓
S863460	1182	✓	✓		✓	✓	✓
S863461	1183	✓	✓		✓	✓	✓
S863462	1184	✓	✓		✓	✓	✓
S863463	1185	✓	✓		✓	✓	✓
S863464	1187	✓	✓		✓	✓	✓
S863465	1188	✓	✓		✓	✓	✓
S863466	1186	✓	✓		✓	✓	✓
S863467	1172	✓			✓	✓	✓
S863468	1198	✓	✓		✓	✓	✓
S863469	1189	✓	✓		✓	✓	✓
S863470	1190	✓	✓		✓	✓	✓
S863471	1191	✓	✓		✓	✓	✓
S863472	1192	✓	✓		✓	✓	✓
S863473	1193	✓	✓		✓	✓	✓

TABLE 2, continued
Available Information for Each of the CMPs

Package ID Number	Original CMP ID Number	Pug Mill Run Data Sheets	H-7 Monthly Summary	H-7 Six-Month Summary	Retrievable CMP Storage Log	RSWD Record	
						Orig.	1986
S863474	1194	√	√		√	√	√
S863475	1195	√	√		√	√	√
S863476	1196	√	√		√	√	√
S863477	1197	√	√		√	√	√
S863478	1199	√	√		√	√	√
S863479	1200	√	√		√	√	√
S863480	1201	√	√		√	√	√
S863481	1202	√	√		√	√	√
S863482	1203	√	√		√	√	√
S863483	1207	√	√		√	√	√
S863484	1205	√	√		√	√	√
S863485	1204	√	√		√	√	√
S863486	1206	√	√		√	√	√
S863487	1210	√	√	√	√		√
S863488	1209	√	√	√	√		√
S863489	1208	√	√	√	√		√
S863490	1211	√	√	√	√		√
S863491	1212	√	√	√	√		√
S863492	1213	√	√	√	√		√
S863493	1214	√	√	√	√		√
S863494	1257	√		√	√		√
S863495	1258	√		√	√		√
S863496	1259	√		√	√		√
S863497	1254	√		√	√		√
S863498	1255	√		√	√		√
S863499	1245	√		√	√		√
S863500	1246	√		√	√		√
S863501	1247	√		√	√		√
S863502	1248	√		√	√		√
S863503	1249	√		√	√		√
S863504	1252	√		√	√		√
S863505	1253	√		√	√		√
S863506	1250	√		√	√		√
S863507	1251	√		√	√		√
S863508	1256	√		√	√		√
S863509	1240	√		√	√		√
S863510	1239	√		√	√		√
S863511	1236	√		√	√		√
S863512	1241	√		√	√		√
S863513	1233	√	√	√	√		√
S863514	1231	√	√	√	√		√
S863515	1232	√	√	√	√		√
S863516	1234	√		√	√		√
S863517	1235	√	√	√	√		√
S863518	1237	√		√	√		√

TABLE 2, continued
Available Information for Each of the CMPs

Package ID Number	Original CMP ID Number	Pug Mill Run Data Sheets	H-7 Monthly Summary	H-7 Six-Month Summary	Retrievable CMP Storage Log	RSWD Record	
						Orig.	1986
S863519	1238	√		√	√		√
S863520	1242	√		√	√		√
S863521	1243	√		√	√		√
S863522	1244	√		√	√		√
S863523	1225	√	√	√	√		√
S863524	1226	√	√	√	√		√
S863525	1227	√	√	√	√		√
S863526	1228	√	√	√	√		√
S863527	1229	√	√	√	√		√
S863528	1230	√	√	√	√		√
S863529	1217	√	√	√	√		√
S863530	1216	√	√	√	√		√
S863531	1215	√	√	√	√		√
S863532	1222	√	√	√	√		√
S863533	1223	√	√	√	√		√
S863534	1218	√	√	√	√		√
S863535	1219	√	√	√	√		√
S863536	1220	√	√	√	√		√
S863537	1221	√	√	√	√		√
S863538	1224	√		√	√		√
S863539	1262	√		√	√		√
S863540	1263	√		√	√		√
S863541	1264	√		√	√		√
S863542	1265	√		√	√		√
S863543	1266	√		√	√		√
S863544	1260	√		√			√
S863545	1261	√		√			√
S863546	3305	√	√				√
S863547	3306						√
S863548	3307						√
S863549	3308						√
S863550	1280	√	√				√
S863551	1281	√	√				√
S863552	1282	√	√				√
S863553	1283	√	√				√
S863554	1284	√	√				√
S863555	1285	√	√				√
S863556	1286	√	√				√
S863557	1287	√	√				√
S863558	1288	√	√				√
S863559	1289	√	√				√
S863560	1267	√	√				√
S863561	1268	√	√				√
S863562	1269	√	√				√
S863563	1270	√	√				√

TABLE 2, continued
Available Information for Each of the CMPs

Package ID Number	Original CMP ID Number	Pug Mill Run Data Sheets	H-7 Monthly Summary	H-7 Six-Month Summary	Retrievable CMP Storage Log	RSWD Record	
						Orig.	1986
S863564	1271	✓	✓				✓
S863565	1272	✓	✓				✓
S863566	1273	✓	✓				✓
S863567	1274	✓	✓				✓
S863568	1275	✓	✓				✓
S863569	1276	✓	✓				✓
S863570	1277	✓	✓				✓
S863571	1278	✓	✓				✓
S863572	1279	✓	✓				✓
S863573	1290	✓	✓				✓
S863574	1291	✓	✓				✓
S863575	1292	✓	✓				✓
S863576	1293	✓	✓				✓
S863577	1294	✓	✓				✓
S863578	1295	✓	✓				✓
S863579	1296	✓	✓				✓
S863580	1297	✓	✓				✓
S863581	1298	✓	✓				✓
S863582	1299	✓	✓				✓
S863583	3301	✓	✓				✓
S863584	3302	✓	✓				✓
S863585	3303	✓	✓				✓
S863586	3304	✓	✓				✓

prepared at this time, and it is unknown why reported weights of some CMPs in the table attached to the field notes are different from those in the database and RSWD forms.

All sources that were reviewed indicate that the CMPs are filled with a cemented waste or cement paste, and none indicates that other types of waste were placed into the CMPs. All sources indicate that cold (non-contaminated) concrete plugs were placed into both ends of the CMPs. The waste in the CMPs should be characterized as homogeneous cemented waste.

Although the cold plugs were reported to be about 12 inches in length in several reports, the actual length of cold plugs in 117 of the CMPs were calculated based on the initial and final depth data shown in the table in Appendix E. The calculated lengths of the cold plugs are presented in Table 3. Metric values shown in the table in Appendix E were converted to inches. The total length of a CMP minus the initial depth gives the calculated length of the cold plug that was at the bottom of the CMP (shown in the column on the left in Table 3), and the final depth is the same as the length of the cold plug added after the CMP was filled (shown in the column on the right in Table 3). The cold plugs that were at the bottom of the CMPs range from four inches to 59 inches in length, and average about 19 inches in length. About 30% of the bottom plugs were calculated to be equal to or greater than two feet in length. The cold plugs at the top range from seven inches to 18 inches, and average 12 inches. The person placing cement paste into the CMP with a fire hose could easily see the depth at the top and stop filling the CMP when the cement paste was about a foot from the top of a CMP, whereas it was probably very difficult to observe the height of the concrete plug as it was placed into the bottom of a CMP.

TABLE 3
Physical Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Approx. Gross Weight (pounds)	Cement Paste Compressive Strength (psi) *	Actual Length of Cold Plugs (inches)		Metal Plate on One End (Yes or No)
S863429	1150	13000	1316	26	11	N
S863430	1151	12800	1316	12	7	N
S863431	1157	13000	955, 2319	18	12	N
S863432	1158	12800	2319	12	11	N
S863433	1159	13000	2319	20	11	N
S863434	1152	13400	1316, 2007	13	12	N
S863435	1153	13000	2007	14	11	N
S863436	1154	13000	2007, 955	14	11	N
S863437	1155	13000	955	15	10	N
S863438	1156	13000	955	16	11	N
S863439	1163	12600	1852, 1793	18	13	N
S863440	1164	13200	1793	24	12	N
S863441	1165	12600	1793	6	12	N
S863442	1169	12600	2046, 1579	23	12	N
S863443	1173	12600	1969	18	12	N
S863444	1174	13400	1969	16	12	N
S863445	1160	12600	2319, 1852	20	11	N
S863446	1161	13200	1852	14	9	N
S863447	1162	13200	1852	20	11	N
S863448	1166	12800	1793, 2046	16	11	N
S863449	1167	13200	2046, 1579	18	13	N
S863450	1168	12400	2046, 1579	18	12	N
S863451	1170	13000	1579	18	11	N
S863452	1171	12800	1579	16	11	N
S863453	1175	12800	1969	23	12	N
S863454	1178	13000	1043	22	12	N
S863455	1177	13000	1043	20	12	N
S863456	1176	13000	1969, 1043	25	12	N
S863457	1179	13000	1043, 2007	23	12	N
S863458	1180	13000	2007	59	14	N
S863459	1181	13200	2007	30	10	N
S863460	1182	12800	2007, 1248	30	13	N
S863461	1183	12600	1248	38	13	N
S863462	1184	13000	1248	17	13	N
S863463	1185	12800	1248	26	13	N
S863464	1187	13000	1715	22	12	N
S863465	1188	13000	1715	20	11	N
S863466	1186	13000	1248, 1715	19	14	N
S863467	1172	12800	1579, 1969	16	12	N
S863468	1198	13600	1608, 1725	17	11	N
S863469	1189	12600	1715, 1852	19	18	N
S863470	1190	12800	1852	20	18	N
S863471	1191	12800	1852	22	12	N
S863472	1192	12800	1852, 1452	20	12	N
S863473	1193	13600	1452	13	12	N

TABLE 3, continued
Physical Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Approx. Gross Weight (pounds)	Cement Paste Compressive Strength (psi)	Actual Length of Cold Plugs (inches)		Metal Plate on One End (Yes or No)
S863474	1194	13800	1452	20	13	N
S863475	1195	12600	1452, 1608	14	12	N
S863476	1196	12600	1608	15	14	N
S863477	1197	13200	1698	14	15	N
S863478	1199	13200	1725	15	12	N
S863479	1200	13600	1725	12	12	N
S863480	1201	13200	1725, 1228	17	16	N
S863481	1202	13000	1228	13	15	N
S863482	1203	13000	1208	12	12	N
S863483	1207	12800	1521, 2008	17	14	N
S863484	1205	12800	1521	10	13	N
S863485	1204	13200	1228, 1521	12	16	N
S863486	1206	12800	1521	24	12	N
S863487	1210	13200	2008	13	12	N
S863488	1209	13000	2008	11	13	N
S863489	1208	13600	2008, 838	11	15	N
S863490	1211	13000	838, 780	31	11	N
S863491	1212	13000	780	31	16	N
S863492	1213	13000	780	34	14	N
S863493	1214	13000	780	25	14	N
S863494	1257	12800	NA **	4	13	Y
S863495	1258	13000	NA	4	9	Y
S863496	1259	13200	NA	4	12	Y
S863497	1254	13000	NA	4	10	Y
S863498	1255	13200	NA	4	11	Y
S863499	1245	13000	1472, 975	4	12	Y
S863500	1246	13000	975	6	11	Y
S863501	1247	12200	975, 1335	6	12	Y
S863502	1248	12600	1335	6	12	Y
S863503	1249	13000	1335	6	12	Y
S863504	1252	11000	NA	4	12	Y
S863505	1253	11200	NA	4	12	Y
S863506	1250	13000	1335	6	11	Y
S863507	1251	13000	NA	4	11	Y
S863508	1256	13000	NA	4	12	Y
S863509	1240	13200	1433	28	11	N
S863510	1239	12800	1433	34	15	N
S863511	1236	12800	1433	41	10	N
S863512	1241	13200	1433, 1372	30	12	N
S863513	1233	12600	2495	18	10	N
S863514	1231	12600	1657, 2495	24	10	N
S863515	1232	12800	2495	26	10	N
S863516	1234	12600	1618	29	12	N
S863517	1235	10800	1618	30	10	N
S863518	1237	13000	1618	47	10	N

TABLE 3, continued
Physical Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Approx. Gross Weight (pounds)	Cement Paste Compressive Strength (psi)	Actual Length of Cold Plugs (inches)		Metal Plate on One End (Yes or No)
S863519	1238	13000	1618	24	12	N
S863520	1242	13000	1472	31	12	N
S863521	1243	12800	975	32	10	N
S863522	1244	13800	975	4	12	Y
S863523	1225	12800	1023	32	9	N
S863524	1226	13000	1023	28	9	N
S863525	1227	13000	1023	26	10	N
S863526	1228	13800	1023, 1657	27	10	N
S863527	1229	13200	1657	23	10	N
S863528	1230	13000	1657	24	10	N
S863529	1217	13200	1784	27	18	N
S863530	1216	13000	1784	20	17	N
S863531	1215	13000	780, 1784	31	17	N
S863532	1222	12800	1764	24	11	N
S863533	1223	12600	1764	30	9	N
S863534	1218	13000	1784, 2066	42	10	N
S863535	1219	12800	2066	29	10	N
S863536	1220	12600	2066	28	10	N
S863537	1221	13000	2066, 1764	24	11	N
S863538	1224	13200	1764	28	9	N
S863539	1262	12600	NA	4	12	Y
S863540	1263	13000	NA	4	12	Y
S863541	1264	13000	NA	4	11	Y
S863542	1265	11002	NA	4	12	Y
S863543	1266	10202	NA	4	14	Y
S863544	1260	12800	NA	4	14	Y
S863545	1261	13000	NA	4	13	Y
S863546	3305	12000	NA	NA	NA	Y
S863547	3306	11000	NA	NA	NA	Y
S863548	3307	14000	NA	NA	NA	Y
S863549	3308	13000	NA	NA	NA	Y
S863550	1280	13200	NA	NA	NA	Y
S863551	1281	13000	NA	NA	NA	Y
S863552	1282	13200	NA	NA	NA	Y
S863553	1283	13800	NA	NA	NA	Y
S863554	1284	12600	NA	NA	NA	Y
S863555	1285	13800	NA	NA	NA	Y
S863556	1286	13000	NA	NA	NA	Y
S863557	1287	11000	NA	NA	NA	Y
S863558	1288	11000	NA	NA	NA	Y
S863559	1289	11200	NA	NA	NA	Y
S863560	1267	10200	NA	NA	NA	Y
S863561	1268	13000	NA	NA	NA	Y
S863562	1269	13000	NA	NA	NA	Y
S863563	1270	13000	NA	NA	NA	Y

TABLE 3, continued
Physical Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Approx. Gross Weight (pounds)	Cement Paste Compressive Strength (psi)	Actual Length of Cold Plugs (inches)		Metal Plate on One End (Yes or No)
S863564	1271	11000	NA	NA	NA	Y
S863565	1272	14000	NA	NA	NA	Y
S863566	1273	11000	NA	NA	NA	Y
S863567	1274	12000	NA	NA	NA	Y
S863568	1275	10600	NA	NA	NA	Y
S863569	1276	10000	NA	NA	NA	Y
S863570	1277	13000	NA	NA	NA	Y
S863571	1278	11000	NA	NA	NA	Y
S863572	1279	10600	NA	NA	NA	Y
S863573	1290	12600	NA	NA	NA	Y
S863574	1291	12600	NA	NA	NA	Y
S863575	1292	12800	NA	NA	NA	Y
S863576	1293	10200	NA	NA	NA	Y
S863577	1294	14000	NA	NA	NA	Y
S863578	1295	13000	NA	NA	NA	Y
S863579	1296	10000	NA	NA	NA	Y
S863580	1297	10600	NA	NA	NA	Y
S863581	1298	13200	NA	NA	NA	Y
S863582	1299	11200	NA	NA	NA	Y
S863583	3301	10600	NA	NA	NA	Y
S863584	3302	11000	NA	NA	NA	Y
S863585	3303	11400	NA	NA	NA	Y
S863586	3304	10600	NA	NA	NA	Y

* Two compressive strength values indicates CMP received waste from two pug mill runs

** NA = Not Available

Available information indicates that the cement inside the CMPs is cured or hardened, and is not in the form of a sludge or wet paste. Compression strength tests were conducted on the cement paste from all pug mill runs at the 21-257 plant (References 11 and 22), and compression data were located for retrievable pug mill runs from December 31, 1975, through October 4, 1977 (Pug Mill Run # 424) and are included in Appendix A). The data are available for cement paste that went into 101 of the 158 CMPs, and these are shown in Table 3. Two compressive strength values are shown for CMPs that received cement paste from two pug mill runs. The compression data ranged from 780 to 2,495 pounds per square inch (psi), with an average of 1,623 psi. Data for non-retrievable cement paste that was placed into MDA T shafts during this period showed a range of 634 to 2,924 psi. These data all indicate that the cement paste within the CMPs should be stable enough for processing and repackaging of the CMPs into containers that are approved for WIPP.

One concern is whether items of debris waste were also placed into the CMPs, but this concern appears to be unfounded. The MDA T retrievable waste storage area was fenced and access to the CMPs was limited to the group that operated the 21-257 plant. Plywood covers were bolted to the top of the unfilled CMPs and were removed as the CMPs were to be filled. Reports do indicate that other types of waste (such as 3-ft diameter "bathyspheres") were placed by the 21-257 operating group into MDA T shafts that received cemented waste (References 11 and 22). Discussions with a 21-257 plant operator and plant

engineer who worked at the 21-257 plant during the period that CMPs were filled confirmed that waste items other than cemented waste were placed into the MDA T disposal shafts, but both individuals stated that to their knowledge only cement paste was placed into the CMPs (References 22 and 24). These items placed into the shafts (not CMPs) included the bathyspheres, waste from the Health Research Laboratory, and the cement paste samples used in the compression tests.

6.2 Radiological Characteristics

Table 4 presents values for each CMP for total curies, curies of Am-241, curies of Pu-238, curies of Pu-239, PE-Ci, fissile grams of material, and dose at the surface from the TRU waste database. On average, the CMPs contain about 66 curies of Am-241 activity and about 68 PE-Ci, but range up to 160 curies of Am-241 activity and about 164 PE-Ci. About 99% of all activity and of the TRU activity on average is due to Am-241, with Pu-239 and Pu-238 making up most of the remaining activity of TRU isotopes. Other radionuclides that were reported on the RSWD forms for the CMPs include mixed fission products (MFP), uranium-235 (U-235), and uranium-238 (U-238). The range of fissile material is less than 1 gram to more than 500 grams and about 47 grams on average. Uranium-235 accounts for much of the fissile material in the CMPs with higher amounts of fissile material.

Radiological information was originally provided by the Building 21-257 plant engineer, based on analyses of the pug mill feed solutions performed at the H-7 radiochemistry lab at TA-50. The monthly reports compiled by the plant engineer (in Appendix C) include results for analyses by the H-7 laboratory for Am-241 in a footnote, but the reports indicate that the Am-241 values provided in the table (and believed to have been used in the RSWD forms) for CMPs were based on analysis by the Chemistry & Metallurgy Group (CMB-11) at the DP West facility (which generated the Am waste). The CMB-11 analysis was considered to be more accurate than the H-7 analysis (Reference 25).

Values for surface dose of the CMPs from the TRU database are also shown in Table 4, and range from 0 to 100 mR/hr with an average of about 16 mR/hr. These data were collected after decontamination and painting of the CMPs, and before the CMPs were loaded on a truck for transport to TA-54 Area G (Reference 18).

6.2 Chemical Characteristics

No results of analyses for chemical constituents were reported for the pug mill feed solutions, on the RSWD forms, or other documents related to the CMPs that were reviewed. At the time that the CMPs were filled in 1975 to 1978, there were no regulatory requirements related to hazardous chemical constituents in waste that were applicable to LANL.

TABLE 4
Radiological Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Total Curies	Am-241 (Curies)	Pu-238 (Curies)	Pu-239 (Curies)	PE-Ci	Fissile Grams	Dose at Surface (mR/hr)
S863429	1150	11.12	10.16	0.06	0.90	11.31	14.33	3
S863430	1151	11.12	10.16	0.06	0.90	11.31	14.33	1
S863431	1157	10.82	10.51	0.05	0.26	11.02	4.14	2
S863432	1158	10.82	10.51	0.05	0.26	11.02	4.14	3
S863433	1159	10.82	10.51	0.05	0.26	11.02	4.14	0
S863434	1152	20.35	19.54	0.04	0.77	20.73	12.31	1
S863435	1153	33.51	32.70	0.04	0.77	34.15	12.38	1
S863436	1154	14.51	13.70	0.04	0.77	14.78	12.27	1
S863437	1155	14.51	13.70	0.04	0.77	14.78	12.27	2
S863438	1156	14.50	13.70	0.04	0.75	14.76	12.07	2
S863439	1163	10.31	9.82	0.04	0.45	10.50	7.22	2
S863440	1164	10.31	9.82	0.04	0.45	10.50	7.22	3
S863441	1165	10.31	9.82	0.04	0.45	10.50	7.22	3
S863442	1169	12.07	11.21	0.11	0.75	12.28	12.06	1
S863443	1173	16.68	16.10	0.06	0.52	16.99	8.37	1
S863444	1174	16.68	16.10	0.06	0.52	16.99	8.37	1
S863445	1160	10.82	10.51	0.05	0.26	11.02	4.14	1
S863446	1161	10.82	10.51	0.05	0.26	11.02	4.14	3
S863447	1162	10.82	10.51	0.05	0.26	11.02	4.14	2
S863448	1166	12.07	11.21	0.11	0.75	12.28	12.06	1
S863449	1167	12.07	11.21	0.11	0.75	12.28	12.06	1
S863450	1168	12.07	11.21	0.11	0.75	12.28	12.06	1
S863451	1170	12.07	11.21	0.11	0.75	12.28	12.06	1
S863452	1171	12.07	11.21	0.11	0.75	12.28	12.06	4
S863453	1175	16.68	16.10	0.06	0.52	16.99	8.37	2
S863454	1178	11.81	11.45	0.33	0.02	12.00	0.42	1
S863455	1177	11.81	11.45	0.33	0.02	12.00	0.42	1
S863456	1176	11.81	11.45	0.33	0.02	12.00	0.42	1
S863457	1179	10.36	10.03	0.03	0.30	10.56	4.81	3
S863458	1180	10.36	10.03	0.03	0.30	10.56	4.81	3
S863459	1181	10.36	10.03	0.03	0.30	10.56	4.81	4
S863460	1182	10.36	10.03	0.03	0.30	10.56	4.81	4
S863461	1183	10.36	10.03	0.03	0.30	10.56	4.81	3
S863462	1184	10.36	10.03	0.03	0.30	10.56	4.81	3
S863463	1185	10.36	10.03	0.03	0.30	10.56	4.81	3
S863464	1187	17.37	16.97	0.05	0.36	17.70	5.76	4
S863465	1188	17.37	16.97	0.05	0.36	17.70	5.76	4
S863466	1186	17.37	16.97	0.05	0.36	17.70	5.76	3
S863467	1172	16.68	16.10	0.06	0.52	16.99	8.37	1
S863468	1198	13.45	11.80	0.98	0.67	13.58	10.77	7
S863469	1189	23.12	22.21	0.36	0.55	23.51	8.82	3
S863470	1190	23.12	22.21	0.36	0.55	23.51	8.82	2
S863471	1191	23.12	22.21	0.36	0.55	23.51	8.82	12
S863472	1192	23.12	22.21	0.36	0.55	23.51	8.82	4
S863473	1193	23.12	22.21	0.36	0.55	23.51	8.82	4

TABLE 4, continued
Radiological Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Total Curies	Am-241 (Curies)	Pu-238 (Curies)	Pu-239 (Curies)	PE-Ci	Fissile Grams	Dose at Surface (mR/hr)
S863474	1194	23.12	22.21	0.36	0.55	23.51	8.82	4
S863475	1195	13.45	11.80	0.98	0.67	13.58	10.77	7
S863476	1196	13.45	11.80	0.98	0.67	13.58	10.77	7
S863477	1197	13.45	11.80	0.98	0.67	13.58	10.77	7
S863478	1199	13.45	11.80	0.98	0.67	13.58	10.77	7
S863479	1200	13.45	11.80	0.98	0.67	13.58	10.77	1
S863480	1201	13.45	11.80	0.98	0.67	13.58	10.77	1
S863481	1202	13.45	11.80	0.98	0.67	13.58	10.77	4
S863482	1203	13.45	11.80	0.98	0.67	13.58	10.77	1
S863483	1207	9.53	9.02	0.11	0.39	9.69	405.50	12
S863484	1205	9.53	9.02	0.11	0.39	9.69	405.50	1
S863485	1204	9.53	9.02	0.11	0.39	9.69	405.50	1
S863486	1206	9.53	9.02	0.11	0.39	9.69	405.50	1
S863487	1210	38.57	38.52	0.01	0.04	39.33	0.89	2
S863488	1209	38.57	38.52	0.01	0.04	39.33	0.89	7
S863489	1208	38.57	38.52	0.01	0.04	39.33	0.89	12
S863490	1211	69.28	69.05	0.03	0.18	70.62	3.27	2
S863491	1212	69.28	69.05	0.03	0.18	70.62	3.27	12
S863492	1213	69.28	69.05	0.03	0.18	70.62	3.27	12
S863493	1214	69.28	69.05	0.03	0.18	70.62	3.27	12
S863494	1257	160.65	160.00	0.45	0.20	163.74	7.90	20
S863495	1258	160.65	160.00	0.45	0.20	163.74	4.04	30
S863496	1259	160.65	160.00	0.45	0.20	163.74	4.04	30
S863497	1254	160.65	160.00	0.45	0.20	163.74	4.04	20
S863498	1255	160.65	160.00	0.45	0.20	163.74	4.04	20
S863499	1245	134.73	134.30	0.07	0.36	137.35	6.59	23
S863500	1246	134.73	134.30	0.07	0.36	137.35	6.59	20
S863501	1247	134.73	134.30	0.07	0.36	137.35	6.59	20
S863502	1248	134.73	134.30	0.07	0.36	137.35	6.59	25
S863503	1249	135.03	134.30	0.07	0.66	137.65	11.36	20
S863504	1252	93.58	93.20	0.29	0.10	95.38	2.01	18
S863505	1253	93.58	93.20	0.29	0.10	95.38	2.01	20
S863506	1250	93.58	93.20	0.29	0.10	95.38	2.01	25
S863507	1251	93.58	93.20	0.29	0.10	95.38	2.01	20
S863508	1256	160.65	160.00	0.45	0.20	163.74	4.04	20
S863509	1240	186.63	186.10	0.21	0.32	190.26	115.40	23
S863510	1239	186.63	186.10	0.21	0.32	190.26	115.40	25
S863511	1236	186.63	186.10	0.21	0.32	190.26	115.40	4
S863512	1241	134.73	134.30	0.07	0.36	137.35	6.59	35
S863513	1233	86.55	86.30	0.05	0.20	88.23	3.65	15
S863514	1231	86.55	86.30	0.05	0.20	88.23	3.65	12
S863515	1232	86.55	86.30	0.05	0.20	88.23	3.65	26
S863516	1234	97.40	96.75	0.21	0.44	99.28	265.36	20
S863517	1235	97.40	96.75	0.21	0.44	99.28	265.36	18
S863518	1237	97.40	96.75	0.21	0.44	99.28	265.36	26

TABLE 4, continued
Radiological Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Total Curies	Am-241 (Curies)	Pu-238 (Curies)	Pu-239 (Curies)	PE-Ci	Fissile Grams	Dose at Surface (mR/hr)
S863519	1238	97.40	96.75	0.21	0.44	99.28	265.36	20
S863520	1242	134.73	134.30	0.07	0.36	137.35	6.59	35
S863521	1243	134.73	134.30	0.07	0.36	137.35	6.59	23
S863522	1244	134.73	134.30	0.07	0.36	137.35	6.59	35
S863523	1225	72.48	72.00	0.17	0.30	73.87	177.80	4
S863524	1226	72.48	72.00	0.17	0.30	73.87	177.80	4
S863525	1227	72.48	72.00	0.17	0.30	73.87	177.80	10
S863526	1228	72.48	72.00	0.17	0.30	73.87	177.80	10
S863527	1229	72.48	72.00	0.17	0.30	73.87	177.80	10
S863528	1230	72.48	72.00	0.17	0.30	73.87	177.80	12
S863529	1217	69.99	69.75	0.02	0.22	71.36	518.28	15
S863530	1216	69.99	69.75	0.02	0.22	71.36	518.28	15
S863531	1215	69.99	69.75	0.02	0.22	71.36	518.28	10
S863532	1222	72.48	72.00	0.17	0.30	73.87	177.80	26
S863533	1223	72.48	72.00	0.17	0.30	73.87	177.80	15
S863534	1218	36.12	36.09	0.01	0.02	36.82	13.38	12
S863535	1219	36.12	36.09	0.01	0.02	36.82	13.38	10
S863536	1220	36.12	36.09	0.01	0.02	36.82	13.38	10
S863537	1221	72.48	72.00	0.17	0.30	73.87	177.80	15
S863538	1224	72.48	72.00	0.17	0.30	73.87	177.80	15
S863539	1262	175.37	174.30	0.64	0.42	178.72	7.64	25
S863540	1263	175.37	174.30	0.64	0.42	178.72	7.64	25
S863541	1264	175.37	174.30	0.64	0.42	178.72	7.64	25
S863542	1265	175.37	174.30	0.64	0.42	178.72	7.64	25
S863543	1266	175.37	174.30	0.64	0.42	178.72	7.64	25
S863544	1260	175.37	174.30	0.64	0.42	178.72	8.29	20
S863545	1261	175.37	174.30	0.64	0.42	178.72	7.64	25
S863546	3305	35.51	35.35	0.12	0.03	36.18	0.63	4
S863547	3306	35.51	35.35	0.12	0.03	36.18	0.63	5
S863548	3307	35.51	35.35	0.12	0.03	36.18	0.63	4
S863549	3308	35.51	35.35	0.12	0.03	36.18	0.63	5
S863550	1280	98.41	97.50	0.09	0.82	100.31	13.52	50
S863551	1281	98.41	97.50	0.09	0.82	100.31	13.52	50
S863552	1282	98.41	97.50	0.09	0.82	100.31	13.52	50
S863553	1283	91.37	90.96	0.21	0.20	93.13	6.90	100
S863554	1284	91.37	90.96	0.21	0.20	93.13	6.90	100
S863555	1285	91.37	90.96	0.21	0.20	93.13	6.90	100
S863556	1286	91.37	90.96	0.21	0.20	93.13	6.90	80
S863557	1287	91.37	90.96	0.21	0.20	93.13	6.90	30
S863558	1288	91.37	90.96	0.21	0.20	93.13	6.90	40
S863559	1289	91.37	90.96	0.21	0.20	93.13	6.90	20
S863560	1267	157.59	156.80	0.07	0.72	160.65	12.25	20
S863561	1268	157.58	156.80	0.07	0.72	160.65	12.25	18
S863562	1269	157.58	156.80	0.07	0.72	160.65	12.25	20
S863563	1270	157.58	156.80	0.07	0.72	160.65	12.25	20

TABLE 4, continued
Radiological Characteristics of the CMPs

Package ID Number	Original CMP ID Number	Total Curies	Am-241 (Curies)	Pu-238 (Curies)	Pu-239 (Curies)	PE-Ci	Fissile Grams	Dose at Surface (mR/hr)
S863564	1271	157.58	156.80	0.07	0.72	160.65	12.25	18
S863565	1272	157.58	156.80	0.07	0.72	160.65	12.25	30
S863566	1273	157.58	156.80	0.07	0.72	160.65	12.25	18
S863567	1274	157.58	156.80	0.07	0.72	160.65	12.25	20
S863568	1275	98.41	97.50	0.09	0.82	100.31	13.52	18
S863569	1276	98.41	97.50	0.09	0.82	100.31	13.52	20
S863570	1277	98.41	97.50	0.09	0.82	100.31	13.52	15
S863571	1278	98.41	97.50	0.09	0.82	100.31	13.52	15
S863572	1279	98.41	97.50	0.09	0.82	100.31	13.52	15
S863573	1290	37.03	36.73	0.19	0.10	37.73	9.71	50
S863574	1291	37.03	36.73	0.19	0.10	37.73	9.71	50
S863575	1292	37.03	36.73	0.19	0.10	37.73	9.71	50
S863576	1293	37.03	36.73	0.19	0.10	37.73	9.71	30
S863577	1294	37.03	36.73	0.19	0.10	37.73	9.71	80
S863578	1295	37.03	36.73	0.19	0.10	37.73	9.71	80
S863579	1296	37.03	36.73	0.19	0.10	37.73	9.71	5
S863580	1297	35.83	35.69	0.07	0.06	36.51	1.08	5
S863581	1298	35.83	35.69	0.07	0.06	36.51	1.08	30
S863582	1299	35.83	35.69	0.07	0.06	36.51	1.08	5
S863583	3301	35.83	35.69	0.07	0.06	36.51	1.08	40
S863584	3302	35.83	35.69	0.07	0.06	36.51	1.08	40
S863585	3303	35.83	35.69	0.07	0.06	36.51	1.08	4
S863586	3304	35.83	35.69	0.07	0.06	36.51	1.08	5
TOTALS		10,575.90	10,483.36	31.97	60.10	10,777.85	7,360.79	
Average (Mean)		66.94	66.35	0.20	0.38	68.21	46.59	16

7. Processing CMPs for Disposition

The CMPs must be retrieved from below ground storage and repackaged into WIPP-approved containers, characterized and certified to the WIPP Waste Acceptance Criteria, and transported to WIPP (or another approved disposal facility if some containers are determined to be ineligible for WIPP because they have concentrations below 100 nCi/g of TRU isotopes with a half-life of 20 years or longer). Although both retrieval and processing of the CMPs appear straight forward, there will be considerable effort in project engineering, development of project plans and work control documents, and readiness before either retrieval or processing can begin. These include design and engineering to relocate or realign the gravel road near the area where the CMPs are located, submittal of a RCRA permit modification request to the NMED, and purchase and installation of equipment to cut the CMPs into sections that will fit into WIPP-approved containers that can be characterized for disposition.

7.1 Retrieval of CMPs from Below-Ground Storage

The exact location of the CMPs must be determined. Although the field study that included hand-augering identified one corner of the CMP array in 2007 (Reference 20), the other three corners need to be located. Ground penetrating radar (GPR) of the CMP area was performed in July 2013 and the GPR data are being compiled and analyzed. Land surveying of the area will be conducted in early August 2013 and the land survey will be used to locate the GPR marked areas as well as to determine elevations so that the volume of soil overburden above the CMPs can be estimated. The exact location of the CMPs relative to the road and any utility lines (such as fire alarm lines or other electrical) that may cross the ground surface above the CMPs will be identified.

It is expected that predecessor activities such as relocation of utilities, realignment of the road, installation of vehicle barriers and controls for run-on, submittal of a permit modification request, and removal of much of the soil cover over the CMPs can be performed before readiness-for-retrieval activities are conducted. Removal of the final soil cover, tarps, and plywood that cover the CMPs would likely be conducted after readiness for retrieval is demonstrated. The level of readiness review and the specific activities that constitute retrieval will be defined.

Because the CMPs were covered with tarps and plywood before being covered with soil at TA-54 Area G, it is expected that the CMPs should not require significant cleaning, decontamination, or contamination control efforts during retrieval. This must be confirmed after CMPs are exposed, but it appears that retrieval will consist primarily of lifting each CMP from its current position and transporting it to a staging or storage area. By the time that the CMPs are retrieved from their current below-ground location, most of the TRU waste that is currently stored above ground at Area G will be dispositioned, and there will be several areas available for staging or storage of CMPs while they are scheduled through processing. Rates of retrieval and processing of CMPs will also be coordinated.

7.2 Processing of CMPs after Retrieval

With a length of 20 ft and diameter of 30 in, the CMPs are too large to be transported to WIPP. The CMP weights of 10,000 to 14,000 lb also exceed the Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC, Reference 26) weight limits for transportation of waste containers to WIPP. The CMPs must be cut into sections that can be placed into WIPP-approved containers such as standard waste boxes (SWB) and meet the weight limits. Other WIPP limits such as the PE-Ci activity and fissile gram limits must also be achieved, but based on the information on each CMP in Table 4 it appears that sections of a CMP that will meet size and weight limits for the SWB will also achieve the other limits if the cement within the CMPs is relatively uniform in concentration of radioactive materials.

Cutting the CMPs into five sections will be adequate to meet the size and weight limits of the SWB. With a length of 20 ft, four cuts across the length of the CMP for five sections of equal size would create cylinders with a length of approximately 48 in and diameter of approximately 30 in. Table 2.9-30 of the CH-TRAMPAC document (Reference 26) lists the approximate inside dimensions of the SWB as height 36 9/16 inches, length 68 ¼ inches, and width 52 inches. The cylinders would easily fit into the SWB. Cutting the CMPs into four equal-sized sections with a length of approximately 60 in and diameter of approximately 30 inches in would also create sections that would probably fit into the SWB, but the SWB is convex on the ends and it would be a close fit. Sections of CMPs at the higher weight range of the CMPs that are 60 in long would also exceed the CH-TRAMPAC weight limit for SWBs. Table 2.9-32 of the CH-TRAMPAC document shows the maximum gross weight of the SWB is 4,000 lb, with an approximate empty weight for the SWB of 640 lb. This gives a maximum net weight of about 3,360 lb of waste materials for the SWB. Cutting a CMP with the maximum weight of 14,000 lb in Table 2 would give an approximate weight of 3,500 lb for each section if cut into four sections and an approximate weight of 2,800 lb if cut into five sections.

Engineering design work for purchase and installation of a diamond wire saw in the permacon in Dome 375 has begun. The diamond wire saw will be available for cutting CMPs, confinement spheres, and items such as gloveboxes or pencil tanks. Diamond wire saws are used for stone cutting in stone quarries and in demolition projects for concrete piers, and should easily cut through the CMPs. Diamond wire saws can also be operated at very low speeds to minimize heating at the cut and creation of dust.

Equipment for characterization of SWBs is already in place and operating on Pad 10 at Area G. This includes the high-energy real-time radiography unit (HE-RTR) and the Super High Efficiency Neutron Counter (SuperHENC) for radiography and assay of SWB containers. Although there is currently an Acceptable Knowledge (AK) document for TA-21 debris waste, it does not appear that there is presently an AK document for TA-21 homogeneous waste. The LANL LTP will coordinate with the Central Characterization Project (CCP) and the DOE Carlsbad Field Office (CBFO) on a determination as to whether there is currently an AK document that is applicable to the CMPs; if not, LANL will work with the CCP and CBFO on preparation and approval of an AK document before containers with CMP sections are characterized by the CCP. Homogeneous waste also requires sampling and analysis for hazardous waste constituents, and the LTP will work with CCP and CBFO on types and quantities of samples that will be required for analysis.

7.3 Potential Issues in Processing of CMPs

A question has been raised about whether some CMPs may contain sludge that is not cemented (consistency of toothpaste-like putty) that would be difficult to contain when cutting CMPs into sections for repackaging into WIPP-approved containers. This concern appears to have no basis. As discussed in Section 4 on Page 13, only one of 50 pug mill runs that produced retrievable cement paste included plant sludge as part of the pug mill feed solution and plant sludge made up only 20% of the feed solution blend in this pug mill run. The compressive strength of the cured cement resulting from this pug mill run was 1,316 psi. CMPs with ID Numbers 1150 (Package ID Number 863429) and 1151 (Package ID Number 863430) were filled with cement paste from this pug mill run, and CMP ID number 1152 (Package ID Number 863434) was partially filled with cement paste from this pug mill run.

A related question is whether some CMPs may contain cement of poor strength that crumbles on handling. Again, this appears unlikely based on the compressive strength results available for cement used to fill 101 of the 158 CMPs, which had compressive strength results ranging from 780 to 2,495 psi, and non-retrievable cement produced during this period had compressive strength results ranging from 634 to 2,924 psi. All but two of the pug mill runs that generated retrievable cement paste that do not

have compressive strength data available had very similar pug mill feed solution blends to those where compressive strength data are available. All of the pug mill data are in Appendix A.

The two that are different consisted of Pug Mill Run # 428 (which had a feed solution blend consisting of approximately 21% treated strip waste and 78% americium waste) and Pug Mill Run #439R (which had a feed solution blend consisting of approximately 53% raw KOH waste, 47% americium waste, and less than 1% miscellaneous waste. Non-retrievable cement waste produced with both the treated strip waste and raw KOH waste streams with compressive strength data show that these still produce cement with good compressive strength. For example, Pug Mill Run # 384 with about 23% treated strip waste and 41% raw KOH produced cement with a compressive strength of 2,271 psi. Pug Mill Run # 3388 with about 72% raw KOH in the waste feed blend produced cement with a compressive strength of 2,339 psi.

Questions have also been raised about the presence of prohibited items such as free liquids and debris waste embedded within the cement matrix. The field notes from retrieval of the CMPs at TA-21 in 1986 (Reference 18) state that water spilled from three CMPs when they were removed from the vertical position and were laid horizontally on the ground. These CMPs were identified as CMP ID Number 3304 (Package ID Number 863586), CMP ID Number 3306 (Package ID Number 863547), and CMP ID Number 3308 (Package ID Number 863549). All were among the first CMPs to be retrieved and were located at the face of the array. It is possible that rain water somehow entered the CMPs. Analysis of the spilled water also showed low concentrations of contamination. However, dewatering of cemented waste in drums has occurred in drums stored at TA-54 and this would not be unexpected in cemented waste in other containers such as the CMPs. Planning for handling and processing of the CMPs should include control measure for liquids that may be released from the CMPs.

The presence of items of debris waste embedded within the cement in the CMPs is considered unlikely based on the fact that the CMP area at TA-21 was fenced, empty CMPs had covers bolted to the top, and personnel who were involved in filling CMPs at TA-21 stated that other waste items were placed into the MDA T shafts rather than in the CMPs. Radiography by HE-RTR will identify any SWBs containing CMP sections that contain prohibited items and these would then be remediated. However, the likelihood of prohibited items other than free liquids is low enough that it appears that other actions such as RTR of intact CMPs before cutting is not necessary. If cutting of CMPs or HE-RTR of CMP sections identifies other types of prohibited items, then this approach would be reconsidered.

There is also a question as to whether CMPs may be reclassified to low-level waste or mixed low-level waste because the assay results show concentrations below 100 nCi/g of TRU isotopes with half lives longer than 20 years at concentrations. Based on the weights of CMPs shown in Table 3 and values of Am-241 in Table 4, it appears that all 158 of the CMPs will assay as TRU waste.

A related question is whether the non-radioactive plugs at the ends of the CMPs will cause sections of the CMPs with the cold plugs to assay at less than 100 nCi/g. Although the plugs are reported to be about 1 ft in length in many reports, the CMP Retrievable Storage Log in Appendix E has data on the actual initial depth to the bottom plug and the depth of the top plug for a total of 117 CMPs. No similar data was located for the other 41 CMPs. By taking the difference of the total length of a CMP and the initial depth, the length of the bottom plug was calculated and is shown in Table 3. The length of the bottom plug in the 117 CMPs ranged from four inches to 59 inches, with an average of 19 inches. A total of 23 of the 117 CMPs in the log had a metal plate on the bottom, and the average depth of the bottom plug on these CMPs was only 4 inches. The average for the 94 CMPs in the log that did not have a metal plate on the bottom was 22 inches. The length of the top plug in the 117 CMPs ranged from 7 inches to 18 inches, with an average of 12 inches. There was no apparent difference in the length of the top plug between the CMPs with plates on the bottom and those without plates on the bottom.

Obviously, the section of the CMP (CMP ID No. 1180, Package ID No. 863458) containing the bottom plug of 59 in is expected to assay as less than 100 nCi/g since the entire 48 in section should be composed of non-radioactive concrete. Calculations on the estimated concentration of Pu isotopes in seven CMPs with bottom plugs of 32 in up to 47 in in length were performed using the actual data from Tables 3 and 4 for Am-241 activity and weights of the CMPs and the length of the CMPs that actually contained radioactive cement. All of these gave estimated concentrations of Pu concentrations greater than 100 nCi/g for a 48 in section containing the cold plug, even the section with 47 in of non-radioactive concrete (CMP ID Number 1237, Package ID Number 863518).

Actual plug lengths are also available in Table 3 for the CMPs with the lowest activity in Table 4, and the same type of calculations for these also showed concentrations greater than 100 nCi/g for sections containing the cold plug. Actual plug lengths are not available for 41 of the CMPs, but these calculations indicate that most if not all CMP sections will likely assay greater than 100 nCi/g of TRU isotopes even if the section contains a non-radioactive plug (except for the one CMP where the non-radioactive plug exceeds the length of a 48 in section.)

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22. Personal communication by Kenneth Hargis with David Salazar (July 11, 2013).
23. Memorandum from L.A. Emelity to T.K. Keenan, *Disposal of Three-Foot Diameter Bathyspheres, H7-79-381* (August 9, 1979); LANL ERID-000974.
24. Personal communication by Kenneth Hargis with David Moss (July 2, 2013).
25. *Summary of Contaminated Wastes to Disposal Pits, January 1 through June 30, 1977*, Memorandum from P.E. McGinnis to John L. Warren, H-7-77-324 (August 26, 1977; LANL ERID-506954).
26. *CH-TRAMPAC Document, Rev. 4*, U.S. Department of Energy (April 4, 2012).

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Appendix A

**Data Sheets for 21-257 Pug Mill Runs,
January 1975 through June 1978**

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Pug Mill Runs - 1975
Composition of Raw Feed

Run No.	DATE	Liters Total	Liters Plant Sludge	Liters Neut. Am	Liters Treated Strip	Liters Raw KOH	Liters TAP WATER	Liters Misc.
325	1-10	5885	1331	3418	—	762	374	—
326	1-15	5692	963	3366	—	920	443	—
327	1-21	5860	—	3209	2250	—	401	—
328	1-27	6272	1174	3156	—	814	1128	—
329	1-29	5056	1174	3093	—	604	185	—
330	2-7	5177	1437	3129	—	157	454	—
331	2-19	5515	911	3365	—	762	477	—
332	2-26	5838	1420	—	2987	579	852	—
333	3-5	5612	1174	3313	—	762	337	26
334	3-10	5280	1542	3155	—	341	242	—
335	3-14	5781	1778	3208	—	473	322	—
336	3-24	5872	2829	—	2209	316	518	—
337	3-27	5382	1647	3103	—	341	291	—
338	4-3	5506	1016	3279	—	762	257	192
339	4-9	6263	1157	—	3250	631	1225	—
340	4-22	5375	1147	3102	—	657	389	—
341	4-25	6917	1104	2777	—	947	2089	—
342	5-1	6621	900	3859	—	878	984	—
343	5-13	6721	1121	3208	—	867	1525	—
344	5-16	5313	1174	3260	—	762	117	—
345	5-28	5135	911	1644	1813	578	189	—

Pug Mill Runs of Raw Feed - 1975

Run No	Date	Liters Total	Liters Plant sludge	Liters Neut. Am	Liters treated strip	Liters Raw KOH	Liters Tap Water	Liters Misc.
367A	12-16	5311	1121	3208	—	867	115	—
367B	12-16	11770	11581	—	—	—	189	—
		5182						
368	12-24	5548	1226	—	3050	762	144	—
369R	12-31	4870	977	3776	—	—	117	—

Note: Beginning with PMR # 369 the retrievable, storage area containing Corrugated Metal Pipe (CMP) was put into service. These Pipe are 30" in diameter and are 20 feet in length. Total capacity of the each CMP is approximately 100 ft³ or 2.8 m³. PMR's generating retrievable cement paste are designated by the run number followed by an R indicating the retrievable nature of the paste.

These runs generally consist of Americium, Sludge, KOH, and/or strip is used to generate a non-retrievable sludge to flush the discharge line before rinsing with tap water.

109319
72267 (C-13692) 29617
(C-13692) 24892

Pug Mill Runs -1975 Operational Data

PMR No.	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Wash Water to Pit #	M.in of oper.	M.in Pump off	Liters Feed ÷ Liters Paste	Liters Pumped Per Min
346	6-5	5248	8193	2131	6#75	#8 G.C.	127	0	.641	64.5
347	6-12	5338	8797	2655	6#75	#8 G.C.	140	0	.607	62.8
348	6-25	5521	8745	3766	6#75	#8 G.C.	132	0	.631	63.8
349	7-2	4200	6013	1798	6#75	#8 G.C.	100	0	.698	60.1
350	7-17	6221	14132	2048	6	#8 G.C.	124	0	.440	114.0
351	7-23	5261	11240	3077	6	#8 G.C.	126	0	.468	89.2
352	8-4	5322	9654	2672	6	#8 G.C.	137	0	.551	70.5
353	8-21	5324	7680	2725	6#76	#8 G.C.	118	0	.693	65.1
354	8-26	6258	8928	1840	6#76	#8 G.C.	172	0	.701	50.4
355	9-8	4630	6539	1957	6#76	#8 G.C.	141	0	.708	46.4
356	9-19	5436	8062	2400	6#76	#8 G.C.	167	0	.674	48.3
357	9-24	5341	8193	1601	6#76	#8 G.C.	174	0	.652	47.1
358	10-3	5340	7589	1855	6#76	#8 G.C.	141	0	.704	53.8
359	10-9	4251	5567	2025	6#76	#8 G.C.	118	0	.764	47.2
360	10-17	4197	7237	1895	6#70	#8 G.C.	130	0	.580	55.7
361	10-31	5891	8534	1397	6#70	#8 G.C.	160	0	.690	53.3
362	11-12	7121	9480	1382	6#70	#8 G.C.	197	0	.751	48.1
363	11-20	5487	8298	1855	6#70	#8 G.C.	175	0	.661	47.4
364	12-2	5220	8272	2029	6#70	#8 G.C.	178	0	.631	46.5
365	12-5	5528	7930	1934	6#70	#8 G.C.	194	0	.697	40.9
366	12-11	5547	8456	1665	6#70, #83	#8 G.C.	150	0	.656	56.4

31%
69%.

Pug Mill Runs - 1975											
Operational Data											
PMR No.	DATE	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Wash Water to Pit #	Min. of Oper.	Min Pump Off	Liters Feed ÷ Liters Paste	Liters Pumped Per Min	
367 ⁽¹⁾	12-16	17081	19921	2195	22830	* ⁸ GL.	426 159	0	.857	46.8	61.2% 39%
368	12-24	5598	7852	3240	6180	* ⁸ G.C.	178	0	.713	44.1	
369 R ⁽²⁾	12-31	4870	5165	1783	GMA 1150 " 1151 " 1152	* ⁸ GL.	129	0	.801	47.2	
369 F ⁽²⁾			919	-	6180	* ⁸ GL.					

(1) Run in two parts: A - sludge, KOH, + Am
B - sludge only

(2) Retrievable paste storage initiated.

F - 2 minutes of paste generated for flushing the retrievable paste from the discharge line

PUG MILE RUNS - ~~1974~~ 1975

TOTAL RADIOACTIVITY

PMR No.	DATE	Liters feed from P.M. feed tank	Gross α	Gross β	Gross γ	d/m-ml ^{238}Pu	^{239}Pu	^{137}Cs	^{90}Sr	^{239}Pu Equiv. of Gross α (grams)	m @
325	1-10	5511	16,600,000	15,000,000	5,000	3,200,000	2,610,000	1,690	8,000	671.1	36
326	1-15	5249	12,000,000	9,600,000	19,000	233,000 140,000	1,090,000 1,340,000	1,680	9,610	462.1	4
327	1-21	5459	12,000,000	9,960,000	25,700	140,000	1,183,000	769	9,400	480.6	3
328*	1-27	5144	10,000,000*	9,000,000*	20,000*	200,000*	1,200,000*	600*	9,000*	377*	35
329	1-29	4871	10,600,000	8,400,000	23,211	23,000	167,000	201	6,600	378.8	25
330	2-7	4723	7,600,000	5,700,000	17,000	137,000	132,000	159	2,200	263.3	7
331	2-19	5038	9,400,000	5,800,000	11,022	207,000	204,000	203	2,300	347.4	8
332	2-26	4986	192,613	119,836	1,005	17,600	15,700	702	357	7.0	3.
333	3-5	5275	11,200,000	8,200,000	15,000	51,700	152,000	175	5,600	433	20
334	3-10	5038	10,500,000	7,200,000	18,000	21,500	176,000	192	4,600	388	16.
335	3-14	5459	14,000,000	10,000,000	43,000	21,200	213,000	160	5,600	561	21
336	3-24	5354	190,000	120,000	1,800	11,700	12,300 123,000	411	438	7	3.
337	3-27	5091	11,600,000	7,400,000	17,000	26,400	223,000	248	2,400	433	9.
338	4-3	5249	12,000,000	8,200,000	27,500	115,000	495,000	1,000	10,600	462	44.
339	4-9	5038	680,000	408,000	763	50,200	92,000	405	640	25	3.
340	4-22	4986	12,300,000	7,700,000	27,000	83,000	417,000	-	11,000	450	37
341	4-25	4828	8,100,000	6,800,000	10,000	39,200	223,000	-	2,200	285	7.
342	5-1	5637	15,900,000	12,300,000	50,000	27,180	220,400	-	3,800	657	14.
343	5-13	5196	11,000,000	8,080,000	22,000	87,700	261,000	-	13,000	419	45.1
344	5-16	5196	13,000,000	9,700,000	29,000	167,000	935,000	60	11,000	496	38.8
345	5-28	4946	5,100,000	3,300,000	3,000	43,500	439,000	54	3,500	185	11.4

* Feed sample was not collected - activity data is estimated. P.E.M.

PMR No.	DATE	Liters feed from P.M. feed Tank	Pag Mill Runs - 1975 Total Radioactivity					^{137}Cs	^{90}Sr	^{239}Pu Equiv. of Gross α (grams)	m β
			Gross α	Gross β	Gross γ	d/m - ml ^{238}Pu	^{239}Pu				
346	6-5	5082	17,500,000	10,000,000	60,000	97,100	719,000	76.	3,000	652	10
347	6-12	5249	12,500,000	7,000,000	29,000	48,000	616,000	51	6,100	481	21
348	6-25	5354	17,000,000	8,600,000	89,500	16,500	189,000	28,200	1,559,000	668	570
349	7-2	4000	260,000	140,000	869	6,510	10,100	718	1,916	8	7
350	7-17	5301	13,000,000	7,600,000	24,000	20,300	174,000	384	2,489	506	10
351	7-23	5144	517,000	307,000	411	17,900	32,900	36	918	20	:
352	8-4	5038	12,000,000	7,400,000	27,000	14,400	178,000	238	10,000	444	31
353	8-21	5226	16,900,000	8,280,000	69,000	20,900	202,000	209	812	648	3
354	8-26	5933	5,980,000	3,490,000	5,770	6,400	50,900	28	7,600	260	30
355	9-8	4354	28,800,000	16,000,000	149,376	34,500	288,000	910	7,300	920	24
356	9-19	5345	10,300,000	3,850,000	11,500	11,200	110,000	87	3,370	404	12
357	9-24	5091	14,000,000	5,570,000	42,500	34,400	285,000	210	1,900	523	7.
358	10-3	5196	30,000,000	18,000,000	197,000	17,400	241,000	340	23,000	1144	81.
359	10-9	4092	470,000	248,000	1,480	4,350	11,700	1,400	1,070	14	6.
360	10-17	4144	18,000,000	5,800,000	18,000	405,000	24,200	167	7,700	547	22
361	10-31	4407	16,500,000	6,100,000	21,000	69,500	1,030,000	109	11,000	533	33
362	11-12	6837	9,740,000	6,070,000	5,840	55,200	597,000	98	392	489	2.
363	11-20	5249	10,700,000	72,600	9,370	23,700	284,000	90.	1,220	412	4.
364	12-2	5091	450,000	164,000	347	40,500	77,500	39	1,600	17	5.1
365	12-5	5354	12,600,000	4,450,000	7,760	23,200	190,000	230	523	495	2.
366	12-11	5354	358,000	155,000	174	51,700	109,000	44	1,400	14	5.1

Pug Mill Runs - 1975											
Total Radioactivity											
PMR No.	Date	Liters Feed from P.M. Feed TANK	Gross α	Gross β	Gross γ	^{238}Pu d/mm	^{239}Pu	^{137}Cs	^{90}Sr	^{239}Pu Equiv. of Gross α (grams)	mC β^-
367A	12-16	5196	11,500,000	5,190,000	5980	1,540,000	769,000	170	6	438	.6
367B ⁽¹⁾	12-16	11581	323,000	278,000	160	43,200	95,300	39	1,360	27	10.
368	12-24	5038	54,500	236,000	33,400	11,800	22,200	3,070	1,700	2	16.
369R	12-31	3776	17,800,000	8,130,000	14,000	73,600	1,030,000	700	1,500	493	5.
369F ⁽²⁾	12-31	977	75,000	53,000	96	22,800	46,200	47	360	1	.

- (1) Plant Sludge Only 62% of radioactivity went to shaft # 80, 38% to shaft # 83
 (2) Feed used ~~to~~ to generate flushing paste (sludge only)

PUG MILL RUNS - 1976									
Composition of Raw Feed Solutions									
Pug Mill Run No.	(1) Date	Liters Total	Liters Plant Sludge	Liters Neut. Am	Liters Treated Strip	Liters Raw KOH	Liters Tap Water	Liters Misc.	
370	1-14-76	5390	2724	—	—	2314	352	—	
371 R	1-16	5050	—	4986	—	—	64	—	
371 F	"	1990	1740	—	—	—	250	—	
372 R	1-23	5120	—	5038	—	—	91	—	
372 F	"	2324	1889	—	—	—	435	—	
373 R	2-5	5034	—	4984	—	—	11	34	
373 F	"	1743	1565	—	—	—	178	—	
374	2-11	5288	2173	—	—	2918	197	—	
375	2-18	5216	1210	—	2408	1420	178	—	
376	2-20	5341	3184	—	—	1907	250	—	
377 R	2-26	4983	—	4960	—	—	23	—	
377 F	2-26	1874	1708	—	—	—	166	—	
378	3-5	4788	3356	—	—	1262	170	—	
379 R	3-16	5054	—	4925	—	—	121	8	
379 F	3-16	1922	1672	—	—	—	250	—	
380 R	4-6	5027	—	4986	—	—	23	18	
380 F	"	1804	1619	—	—	—	185	—	
381	4-20	5705	2671	—	—	2315	719	—	
382 R	4-23	5691	—	5639	—	—	22	30	
382 F	"	1708	1492	—	—	—	216	0	
383	4-29	5572 5572	736	—	2777	1570	481	—	

(1) Initial R following the PMR # indicates data is for portion of run in which Retrievable cement paste was generated. Initial E indicates data is for portion of run in which non-retrievable Paste was generated to Flush the Retrievable paste from the line.

PUG MILL RUNS - 1976

Composition of Raw Feed Solutions

Pug Mill Run No.	Date	Liters Total	Liters Plant Sludge	Liters Newt. Am	Liters Treated Strip	Liters Raw KOH	Liters Tap Water	Liters Misc.
384	5-7	5212	666	—	1138	2071	174	1163
385	5-12	5491	541	—	—	—	279	4671
386 R	5-19	6091	—	6038	—	—	53	—
386 F	5-19	1337	1072	—	—	—	265	—
387 R	6-8	5153 5693	—	4933	—	—	220	—
387 F	6-8	1148	936	—	—	—	212	—
388	6-22	5381	1437	—	—	3759	185	—
389	6-24	5163	1631	—	2566	841	125	—
390 R	7-13	4938	—	4828	—	—	110	—
390 F	"	1680	1404	—	—	—	276	—
391 R	7-20	5077	—	4933	—	—	144	—
391 F	"	2069	1630	—	—	—	439	—
392	7-22	9071	3147	—	—	3154	2297	473 ⁽¹⁾
393	7-28	3758	1607	—	—	1611	193	347
394 R	8-26	5275	—	5108	—	—	79	88
394 F	"	1678	1519	—	—	—	159	—
No Pug Mill Runs Were Made During The Month of September								
395 R	10-5	5327	—	5144	—	—	183	—
395 F	"	1281	—	—	—	1243	38	—
396 R	10-13	5246	—	5126	—	—	76	44
396 F	"	1788	—	—	—	1455	333	—

(1) Water used to clear PUG MILL FEED TRANSFER LINE

PUG MILL RUNS - 1976 Composition of Raw Feed Solutions

Pug Mill Run No.	Date	Liters Total	Liters Plant Sludge	Liters Next Run	Liters Treated Strip	Liters Raw KOH	Liters Tap Water	Liters Misc.
397R	11-5	4784	-	4459	-	-	325	-
397F	"	1241	-	-	-	786	455	-
398	11-12	5556	1421	-	2654	1174	307	-
399R	11-18	4938	-	4828	-	-	110	-
399F	"	1205	-	-	-	1061	144	-
400R	11-24	5216	-	5068	-	-	72	76
400F	"	1751	-	-	-	1414	337	-
401R	12-21	4938	-	4828	-	-	110	-
401F	"	3508	1075	-	-	1449	984	-
402R	12-27	5063	-	4836	-	-	182	45
402F	"	1578	-	-	-	1060	518	-

PUG MILL RUNS - 1976

Operational Data

PMA No. (1)	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Paste to CMP #	Wash Water to ---	Min. of Oper.	Liters Feed ÷ Liters Paste	Liters Pumped Per Min.
370	1-14-76	5390	7589	1094	80 80	—	#8 (thin)	136	.71	55.8
371R	1-16	5050	6913	—	—	1152, 1153, 1154	—	162	.73	42.7
371F	"	1990	2285	1718	80 80	—	#8	52	.87	43.9
372R	1-23	5120	6758	—	—	1154-1157	—	158	.76	42.8
372F	"	2324	2836	1968	80 80	—	#8	46	.82	61.7
373R	2-5	5034	7040	—	—	1157-1160	—	177	.72	39.8
373F	"	1743	2363	1469	80 80	—	#8	47	.74	50.3
374	2-11	5288	7300	2226	80 80	—	#8	130	.72	56.2
375	2-18	5216	7747	1567	80 80	—	#8	177	.67	43.8
376	2-20	5341	8153	2138	80 78	—	#8	204	.66	40.0
377R	2-26	4983	7389	—	—	1160-1163	—	165	.67	44.8
377F	"	1874	1654	1483	78 78	—	#8	29	1.13	57.0
378	3-5	4788	7300	2975	78 78	—	#8	168	.66	43.5
379R	3-16	5054	7106	—	—	1163-1166	—	158	.71*	45.0
379F	3-16	1922	1730	1472	78	—	#8	35	1.11*	49.4
380R	4-6	5027	7343	—	—	1166-1169	—	145	.68	37.7
380F	"	1804	2180	2782	78	—	#8	32	.83	68.1
381	4-20	5705	6906	2369	78	—	#8	233	.83	29.6
382R	4-23	5691	7991	—	—	1169-1172	—	185	.71	43.2
382F	"	1708	1234	1934	78	—	#8	24	1.38*	51.4
383	4-29	5572 5575	6119	1487	78	—	#8	156	.91	39.2

56 %
44 %

* Value is greater than 1.0 probably due to insufficient rinsing of paste from the line before transferring, or inaccurate measurement. Also, vol. of paste generated could not be accurately measured.

(1) The Initial R after the run # indicates data is for the portion of the run in which Retrievable Concent Paste was generated. Initial F indicates data is for portion of the run in which non-Retrievable paste was generated to flush the Retrievable paste from the line. All paste entering the CMP is recorded as Liters Total Paste for the Retrievable portion of the run. Volume of paste contained in the pugmill, boot & pump, and about 12-50' length of fire hose is estimated to be 18 ft³ or ~500 liters. It will normally take about 10 minutes of pugmill operation to displace this volume of retrievable paste with non-retrievable paste. So the policy has been established to continue discharging the paste into the CMP for about 10 minutes after non-retrievable paste generation begins. (P. 11)

PUG MILL RUNS - 1976

Operational Data

PMR No.	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Paste to CMP #	Wash Water to....	Min. of Oper.	Liters Feed ÷ Liters Paste	Liters Pumped Per Min
384	5-7	5212	8351	3248	78	—	#8	222	.62	37.6
385	5-12	5491	9712	1556	78	—	#8	263	.57	36.9
386 R	5-19	6091	8790	—	—	1172-1176	—	213	.69	41.3
386 F	5-19	1337	1155	1071	84	—	#8	22	1.16 ⁽¹⁾	52.5
387 R	6-8	5153 5693	7900	—	—	1176-1179	—	160	.72	49.4
387 F	6-8	1148	867	2771	84	—	#8	11	1.32 ⁽¹⁾	78.8
388	6-22	5381	7248	2044	84	—	#8	163	.74	44.5
389	6-24	5163	11581	1382	84	—	#8	141	.45	82.1
390 R	7-13	4938	7493	—	—	1179-1182	—	148	.66	50.6
390 F	"	1680	1838	2434	84	—	#8	22	.91	83.6
391 R	7-20	5077	7215	—	—	1182-1186	—	148	.70	48.8
391 F	"	2069	1733	2475	84	—	#8	31	1.19 ⁽¹⁾	55.9
392	7-22	9071	11108	2203	84	—	#8	370	.82	30.0
393	7-28	3758	5080	1253	84 + 82	—	#8	95	.74	53.5
394 R	8-26	5275	7945	—	—	1186-1189	—	170	.66	46.7
394 F	"	1678	1733	1715	82	—	#8	39	.97	44.4
No Pugs Mill Runs Were Made During September										
395 R	10-5	5327	7296	—	—	1189-1192	—	279	.73	26.2
395 F	"	1281	1733	1446	82	—	#8	45	.74	38.5
396 R	10-13	5246	7493	—	—	1192-1195	—	158	.70	47.4
396 F	"	1788	2074	1355	82	—	#8	29	.86	71.5

(1) Ratio is greater than 1.0 probably due to insufficient rinsing of paste from the line before transferring hose to rinse water pit. So volume of paste generated could not be accurately meas.

PUG MILL RUNS - 1976

Operational Data

PMR No.	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Paste to CMP #	Wash Water to ...	Min. of Oper.	Liters Feed ÷ Liters Paste	Liters Pumped Per Min.
397R	11-5	4784	7146	—	—	1195-1198	#8	157	.67	45.5
397F	"	1241	1733	1994	82	—	#8	38	.72	45.6
398	11-12	5556	7589	1525	82	—	#8	161	.73	47.1
399R	11-18	4938	7552	—	—	1198-1201	#8	175	.65	43.2
399F	"	1205	1654	1923	82	—	#8	35	.73	47.3
400R	11-24	5216	7761	—	—	1201-1204	#8	240	.67	32.3
400F	"	1751	1969	1525	82	—	#8	30	.89	65.6
401R	12-21	4938	7133	—	—	1204-1207	#8	167	.69	42.7
401F	"	3508	4175	2055	82	—	#8	63	.84	66.3
402R	12-27	5063	7314*	—	—	1207-1208	#8	162	.69	45.2
402F	"	1578	1526	1063	82	—	#8	21	1.03**	72.7

285833

* Based on a Paste to feed ratio of 1.44 (PMR #401) approx. 7300 liters of Retrievable Paste were generated but approx. 4100 liters leaked out the bottom of CMP's 1208 + 1209.

** Ratio is greater than 1.0 probably due to insufficient rinsing of paste from the line before transferring hose to rinse water pit.

PUG MILL RUNS - 1976

Total Radioactivity

PM# No.	Date	Liters from PM feed Tank	Gross α	Gross β	Gross γ	^{238}Pu d/m-ml	^{239}Pu m-ml	^{241}Am	^{137}Cs	^{90}Sr	Total mCi β - γ	Equiv. gms ^{239}Pu of Gross α	Remarks
370	1-14-76	5038	208,000	87,000	29	62,800 32,000		140,000	170	1,700	6.4	8	
371 R	1-16	4486	27,500,000	9,859,000	43,000	57,800	1,170,000	25,900,000	240	2,370	8.5	1006	
371 F	"	1740	380,000	145,000	97	21,200	2,120,000	348,000	37	595	.8	5	
372 R	1-23	5038	28,000,000	11,200,000	51,500	45,900	485,000	24,400,000	233	63	1.0	1035	
372 F	"	1889	480,000	339,000	1,330	11,400	27,800	332,000	24	210	.3	7	
373 R	2-5	5023	17,000,000	6,500,000	43,682	42,300	245,000	17,000,000	183	519	2.37	626	
373 F	"	1565	270,000	130,000	268	9,010	20,600	218,000	24	375	.42	3	
374	2-11	5091	98,000	35,000	240	8,520	18,200	56,400	15	490	1.73	4	
375	2-18	5038	21,000	9,700	240	4,570	8,320	11,400	130	190	1.10	1	
376	2-20	5041	55,000	19,000	72	8,510	17,300	21,100	24	240	.92	2	
377 R	2-26	4937	18,733,112 11,000,000	62,000	45,000	80,400	427,000	18,900,000	15	180	.65	65	
377 F	"	1708	870,000	8,200	800	10,800	32,100	1,500,000	17	390	.47	11	
378	3-5-76	4618 4788	100,000	41,000	130	8,870	24,900	63,300	14	1,300	4.1	3	
379 R	3-16-76	4933	18,000,000	5,400,000	25,000	50,000	594,000	12,400,000	14	220	.8	651	
379 F	3-16-76	1672	520,000	230,000	240	13,700	47,000	333,000	4	280	.3	6	

PUG MILL RUNS - 1976

Total Radioactivity

P.M.A. No.	Date	liters Fed from P.M. Feed	Gross α	Gross β	Gross γ	239 Pu	d/m-ml 239 Pu	241 Am	137 Cs	40 Sr	Total mCi α-γ	Eqv. gm 234 Pu of Gross α	Remarks
380 R	4-6-76	5004	14,600,000	4,680,000	15,800	81,500	750,000	11,000,000	4.5	98.4	.3	536	
380 F	"	1434	1,580,000	702,000	467	19,000	140,000	1,200,000	2.5	490.2	.5	17	
381	4-20-76	4986	96,000	28,800	106	10,500	22,000	45,000	1.9	58.0	.2	3	
382 R	4-23-76	5664	22,500,000	5,370,000	38,000	179,000	1,070,000	17,000,000	21.0	114.0	.5	936	
382 F	"	1492	359,000	130,000	248	17,800	43,100	810,000	4.8	1,870	1.9	4	
383	4-29-76	5091	86,300	20,300	171	4,350	25,000	45,000	59	1,160	4.2	3	
384	5-7	5038	26,500	8,802	87	3,100	18,300	7,050	15.5	584	2.0	1	
385	5-12	5212	240,000	104,000	126	3,330	8,900	205,000	< 1	479	1.7	9	
386 R	5-19	6038	26,700,000	956,800	131,000	83,600	748,000	29,400,000	< 1	< 300	1.2	1183	
386 F	5-19	1072	966,000	450,000	185	6,620	52,200	894,000	< 1	< 300	.2	8	
387 R	6-8	4933	11,000,000	156,000	18,570	453,000	29,900	11,800,000	< 1	347	1.2	398	
387 F	6-8	936	322,000	476,600	221	43,700	4,740	271,000	< 1	169	.1	2	
388	6-22	5196	173,000	56,000	147	4,930	75,500	93,100	14	32	.2	7	
389	6-24	5038	62,150	1,658	476	3,870	40,800	15,300	417	3.4	1.4	2	
390 R	7-13	4828	19,200,000	8,530,000	44,500	27,000	464,000	18,700,000	847	1,140	6.5	680	
390 F	"	1404	40,400	30,500	262	5,950	55,500	345,000	9	825	.8	.4	
391 R	7-20	4933	16,800,000	788,000	38,500	71,600	466,000	16,200,000	959	317	4.3	608	
391 F	"	1630	425,000	281,000	254	5,300	41,900	412,000	20	1,140	1.3	5	
392	7-22	6774	130,000	71,500	156	10,200	90,300	52,000	11	786	3.7	6	
393	7-28	3565	106,000	76,300	131	32,500	10,400	46,800	42	335	.9	3	

PUG MILL RUNS - 1976

Total Radioactivity

P.M.R. No	Date	Liters Recd from P.M. Feed Tank	Gross α	Gross β	Gross γ	d/238 Pu	m-m/234 Pu	241 Am	137 Cs	90 Sr	Total mCi β - γ	Eq. in 234 Pu of Gross	Remarks
394 R	8-26-76	5196	No	Sample Was Taken For This Feed Solution									
394 F	"	1519	459,356	311,429	175	7,100	41,800	378,000	33.9	931	1.0	5	
	No Pug Mill Runs Were Made During September												
395 R	10-5-76	5144	29,400,000	23,360,000	221,274	520,000	628,000	34,700,000	562	8,340	30.9	1110	
395 F	"	1243	8,680	6,540	164	3,610	5,060	7,290	85	891	.8	.1	
396 R	10-13-76	5170	44,700,000	37,300,000	287,000	408,000	752,000	52,400,000	58	6,070	21.4	1885	
396 F	"	1455	294,000	166,000	181,000	5,620	13,000	328,000	77	215	.3	3.1	
397 R	11-5-76	4459	35,500,000	18,200,000	121,000	243,000	933,000	32,900,000	167	848	3.1	1161	
397 F	"	786	335,000	240,000	108	5,370	22,800	357,000	51	1,110	.4	1.9	
398	11-12-76	5249	220,000	120,000	1,884	5,850	23,000	229,000	1820	4,590	22.7	8.5	
399 R	11-18-76	4828	17,200,000	9,770,000	20,700	234,000	1,130,000	17,200,000	76	552	2.1	609	
399 F	"	1061	29,300	168	96	2,410	6,940	26,500	75	861	.7	.2	
400 R	11-24-76	5144	11,800,000	10,200,000	15,000	3,390,000	671,000	10,200,000	80	988	3.7	445	
400 F	"	1414	7,280	207	105	5,160	2,840	6,450	70	27	.1	.1	
401 R	12-21-76	4828	9,450,000	9,120,000	8,430	2,670,000	892,000	10,000,000	33	876	3.0	352	
401 F	"	2524	2,24,000	75,300	84	12,000	177,000	84,900	10	329	.6	4	
402 R	12-27-76	4881	14,100,000	11,600,000	16,500	25,900	75,200	15,100,000	49	164	.7	505	
402 F	"	1060	184,000	99,700	115	19,100	229,000	45,600	25	301	.2	1	

PUG MILL RUNS - 1977 Composition of Raw Feed Solutions

Pug Mill Run No.	DATE	Liters Total	Liters Plant Sludge	Liters Neut. Am.	Liters Treated Strip	Liters Raw KOH	Liters Tap Water	Liters misc.
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403	1/7/77	5870	1790	—	2410	840	830	—
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404 R	1/28/77	5730	—	4880	—	—	850	—
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404 F	"	Non-Retrieveable	Paste	was not generated				
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405	2-3-77	6041	3391	—	—	1700	950	—
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406 R	2-10-77	5652	—	5379	—	—	193	80
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406 F	"	1481	—	—	—	910	571	—
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407	3-4-77	5110	3040	—	—	1472	598	—
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408 R	3-10-77	5499	—	4723	—	—	776	—
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408 F	"	993	—	—	—	770	223	—
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409	3-23-77	4206	2024	—	1893	—	289	—
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410	4-7-77	5488	2945	—	568	1525	450	—
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411 R	4-14-77	5119	—	4828	—	—	291	—
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411 F	"	1063	—	—	—	813	250	—
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412 R	5-3-77	5150	—	4819	—	—	269	62
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412 F	"	1463	—	—	—	1096	367	—
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413 R	5-5-77	5171	—	4933	—	—	238	—
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413 F	"	1358	—	—	—	919	439	—
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414	5-18-77	5450	2520	—	2624	—	306	—
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415 R	5-26-77	5155	—	4828	—	—	227	—
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415 F	"	1644	—	—	—	1061	583	—
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416 R	6-14-77	5240	—	4844	—	—	307	8.9
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416 F	"	821	—	—	—	707	114	—
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417	6-24-77	5710	2367	—	2181	806	356	—
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PUG MILL RUNS - 1977

Composition of Raw Feed Solutions

Pug Mill Run No.	Date	Liters Total	Liters Plant Sludge	Liters Neut. Am.	Liters Treated Strip	Liters Raw KOH	Liters TAP WATER	Liters Misc.
418 R	7-7-77	4960	—	4828	—	—	132	—
418 F	"	1177	—	—	—	1166	11	—
419	7-20-77	5428	2461	—	1841	369	757	—
420 R	8-26-77	5464	—	4933	—	—	531	—
420 F	"	939	—	—	—	247	692	—
421 R	9-8-77	5607	—	5113	—	265	148	81
421 F	"	1426	—	—	—	1078	348	—
422 R	9-21-77	5194	—	4933	—	—	261	—
422 F	"	1105	—	—	—	848	257	—
423 R	9-23-77	4984	—	4776	—	—	208	—
423 F	"	1408	—	—	—	—	431	977
424	10-4-77	6052	1789	—	3828	—	435	—
425 R	10-19-77	5003	—	4723	—	—	280	—
425 F	"	1098	—	—	—	—	462	636
426 R	11-4-77	4838	—	4512	—	—	326	—
426 F	"	1120	—	—	—	—	397	723
427 R	11-15-77	5563	—	5039	—	210	314	—
427 F	"	1252	—	—	—	707	545	—
428 R	12-9-77	7085	—	5347	1480	—	42	216 ← tap water rinse
428 F	"	1221	—	—	—	778	443	—
429 R	12-15-77	5472	—	5196	—	—	38	238
429 F	"	1256	—	—	—	707	549	—

PUG MILL RUNS - 1977

Operational Data

PMR No.	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste to Pit #	Paste to CMP #	Wash Water to	Min. of operation	Liters Feed ÷ Liters paste	Liters Pumped per min.
403	1-7-77	5870	8610	1490	82	—	8	158	.68	54.5
404 R	1-28-77	5730	8010	2286	—	1208-1211	8	142	.72	56.4
404 F	"	Non-Retrieveable Paste was not generated								
405	2-3-77	6041	9690	1892	82	—	8	170	.62	57.0
406 R	2-10-77	5652	7650	—	—	1211-1215	—	151	.74	50.7
406 F	"	1481	1549	1158	82	—	8	15	.96	103.3
407	3-4-77	5110	6895 3447	2320	82+87	—	8	142	.74	48.6
408 R	3-10-77	5499	7141	—	—	1215-1218	—	159	.77	44.9
408 F	"	993	814	1359	87	—	8	8	1.22	101.8 *
409	3-23-77	4206	5672	1503	87	—	8	110	.74	51.6
410	4-7-77	5488	8170	1442	87	—	95	180	.67	45.4
411 R	4-14-77	5119	7514	—	—	1218-1221	—	158	.68	47.6
411 F	"	1063	1103	1734	87	—	95	25	.96	44.1
412 R	5-3-77	5150	7708	—	—	1221-1224	—	157	.67	49.1
412 F	"	1463	1471	1461	87	—	95	32	.99	46.0
413 R	5-5-77	5171	7320	—	—	1225-1228	—	150	.70	48.8
413 F	"	1358	1339	1934	87	—	95	28	1.01	47.8
414	5-18-77	5450	7799	980	87	—	95	143	.70	54.5
415 R	5-26-77	5155	7667	—	—	1228-1231	—	155	.67	49.5
415 F	"	1644	2022	1453	87	—	95	45	.81	44.9
416 R	6-14-77	5240	8016	—	—	1231-1232+1235	—	150	.65	53.4
416 F	"	821	630	2161	87	—	95	20	1.30	31.5
417	6-24-77	5710	7773	1329	87	—	95	147	.74	52.9

* High F/P ratio and ~~pumping rate~~ indicates a surplus of paste went to the CMP before transferring to the non-retrieveable shafts.

PUG MILL RUNS - 1977

Operational Data

PMR No.	Date	Liters Treated	Liters Total Paste	Liters Wash Water	Paste To Shaft #	Paste To CMP #	Wash Water To	Min. of Operation	Liters Feed ÷ Liters Paste	Liters Pumped Per Min.
418 R	07-7-77	4960	7447	—	—	1234, 1235 1237, 1238	—	157	.67	47.4
418 F	"	1177	1654	1067	87	—	95	42	.71	39.4
419	7-20-77	5428	6569 725	1287	8+87	—	95	119	.83	55.2
420 R	8-26-77	5464	7679	—	—	1236 1239-1241	—	172	.71	44.7
420 F	"	939	1050	916	87	—	95	10	.89	105.0
421 R	9-8-77	5607	8222	—	—	1241, 1242 1244, 1245	—	157	.68	52.37
421 F	"	1426	1313	1196	87	—	95	19	1.09	69.10
422 R	9-21-77	5194	7667	—	—	1243 1245-1247	—	143	.68	53.61
422 F	"	1105	788	1450	87	—	95	11	1.41	71.64
423 R	9-23-77	4984	7832	—	—	1247 1250	—	152	.64	51.53
423 F	"	1408	1602	1222	87	—	95	29	.88	55.24
424	10-4-77	6052	9229 4615	556	87 94	—	95	157	.66	58.78
425 R	10-19-77	5003	8050	—	—	1252- 1255	—	168	.62	47.92
425 F	"	1098	919	1995	94	—	95	13	1.19	70.69
426 R	11-4-77	4838	7933	—	—	1256- 1259	—	162	.61	48.97
426 F	"	1120	1287	1802	94	—	95	20	.87	64.45
427 R	11-15-77	5563	8500	—	—	1259- 1262	—	178	.65	47.75
427 F	"	1252	1024	1272	94	—	95	8	1.22	128.00
428 R	12-9-77	7085	10657	—	—	1260- 1264	—	234	.67	45.54
428 F	"	1221	1208	1438	94	—	95	10	1.01	120.80
429 R	12-15-77	5472	8072	—	—	1264- 1267	—	189	.68	42.71
429 F	"	1256	683	1067	94	—	95	16	1.85	42.69

PUG MILL RUNS - 1972

Total Radioactivity

	Liters Feed from P.M. Feed Tank	Gross α	Gross β	Gross γ	^{238}Pu d/m	^{239}Pu m-m	^{241}Am	^{137}Cs	^{90}Sr	mCi β - γ	Egms gms ^{239}Pu of Gross	REMARKS
403	1-7-77	5040	129,000	77,000	1,180	8,750	30,400	107,000	976	1,400	8.09	5
404 R	1-28-77	4880	31,200,000	198,000	12,600,000	15,000	58,000	41,600,000	85	438	1.73	1117
404 F	"		NON-RETRIEVABLE				WAS NOT	GENERATED				
405	2-3-77	5091	410,000	232,000	123	44,500	16,800	426,000	356	1,140	5.15	15
406 R	2-10-77	5454	126,000,000	85,000,000	25,300	50,700	288,000	104,000,000	103	20,200	74.89	5046
406 F	"	910	51,000	37,500	126	1,740	4,590	34,100	41	179	0.14	1
407	3-4-77	4512	85,000	39,000	97	19,000	22,300	56,900	39	7,020	21.52	3
408 R	3-10-77	4723	107,000,000	50,500,000	16,400	31,200	304,000	129,000,000	9	675	2.18	3707
408 F	"	770	127,000	36,900	123	27,000	57,800	52,500	20	101	0.06	1
409	3-23-77	3917	44,400	13,300	249	7,940	6,970	14,900	170	791	2.54	1
410	4-7-77	5038	109,500	34,520	84	13,800	21,900	58,700	30	2,500	8.61	4
411 R	4-14-77	4828	4,540,000	1,220,000	1,050	6,280	16,600	5,120,000	11	2,320	7.61	160
411 F	"	813	265,000	83,700	125	6,130	84,480	178,000	17	2,330	1.29	2
412 R	5-3-77	4881	180,000,000	86,600,000	37,700	342,000	685,000	102,000,000	66	3,520	11.83	6446
412 F	"	1096	275,000	76,000	99	16,200	160,000	54,000	22	145	0.13	2
413 R	5-5-77	5156	179,000,000	91,100,000	38,800	114,000	439,000	151,000,000	193	139	1.16	6771
413 F	"	919	342,000	117,000	147	14,100	109,000	123,000	22	799	0.51	2
414	5-18-77	5144	123,000	622,000	122	6,540	7,270	77,600	15	524	1.87	5
415 R	5-26-77	4828	162,000,000	80,600,000	39,300	316,000	206,000	125,000,000	114	43	0.54	5999
415 F	"	1061	90,300	26,600	74	4,210	25,900	38,500	9	126	0.10	1

38% - #82
62% - #87

PUG MILL RUNS - 1977

Total Radioactivity

PMR No.	Date	Liters From Feed Tank	Gross α	Gross β	Gross γ	238 Pu	d/m-ml 239 Pu	241 Am	137 Cs	90 Sr	Total mCi β - γ	Eqv. gms 239 Pu of Gross α	Remarks
416 R	6-14-77	5190	160,000,000	65,800,000	72,900	62,000	253,000	150,000,000	1	249	0.88	6092	
416 F	"	707	77,200	70,900	52	2,130	6,150	34,800	0	913	.44	0	
417	6-24-77	5354	102,000	44,400	92	4,060	7,580	68,400	18	183	.73	4	
418 R	7-7-77	4838	141,000,000	48,600,000	26,000	382,000	809,000	217,000,000	20	204	.73	5005	
418 F	"	1166	922,000	442,000	238	17,100	36,200	481,000	19	138	.73	8	
419	7-20-77	4671	157,000	61,460	88	5,300	19,900	107,000	0	176	.56	5	
420 R	8-26-77	4933	288,000,000	140,000,000	48,700	285,000	438,000	288,000,000	1	1330	4.43	10,423	
420 F	"	247	1,210,000	523,000	177	4,790	6,070	1,040,000	0	3110	.52	2	
421 R	9-8-77	5459	182,000,000	113,000,000	27,400	81,000	761,000	193,000,000	1	815	3.01	7289	
421 F	"	1078	156,000	10,500	85	5,810	66,200	66,600	0	196	0.14	1	
422 R	9-21-77	4933	240,000,000	110,000,000	133	110,000	414,000	191,000,000	0	1350	4.50	8686	
422 F	"	848	470,000	149,000	32,600	10,300	265,000	159,000	0	381	0.22	3	
423 R	9-23-77	4776	249,000,000	107,000,000	36,700	68,300	211,000	201,000,000	0	2180	7.04	8725	
423 F	"	977	173,000	85,200	10	15,900	18,000	144,000	0	657	0.43	1	
424	10-4-77	5617	292,000	150,000	149	3,190	9,270	412,000	0	1010	3.83	12	420-87 262-94
425 R	10-19-77	4723	216,000,000	131,000,000	20,000	541,000	177,000	190,000,000	265	886	3.67	7484	
425 F	"	636	413,000	58,740	1	2,460	2,000	408,000	22	421	0.19	2	
426 R	11-4-77	4838	266,000,000	5,900	36	453,000	193,000	235,000,000	51	2,320	7.75	9441	
426 F	"	1120	334,000	13,000	303	2,320	1,850	293,000	2	1,420	1.08	3	
427 R	11-15-77	5563	270,000,000	133,000,000	37,000	698,000	294,000	258,000,000	113	403	1.94	11,019	
427 F	"	1252	236,000	77,000	100	5,520	56,400	155,000	10	37	0.04	2	

Total Radioactivity

[illegible]

Operational Data

[illegible]

PUG MILL RUNS - 1978

Total Radioactivity in Feed Solutions

[illegible]

[illegible]

STRENGTH DATA 1975 + 1976

PMR #	DATE	Liters Treated	% Solids	Comp. Strength psi	Raw Feed Specific Gravity
352	8-4	5322	27	2319	1.166
353	8-21	5324	28	1072	1.188
354	8-26	6258	27	2485	1.156
355	9-8	4630	29	2329	1.200
356	9-19	5436	28	1969	1.184
357	9-24	5341	26	2582	1.184
358	10-3	5340	26	1900	1.178
359	10-9	4251	27	2007	1.186
360	10-17	4197	30	1871	1.254
361	10-31	5891	30	2154	1.212
362	11-12	7121	29	1667	1.192
363	11-20	5487	25	2738	1.172
364	12-2	5220	13	2183	1.092
365	12-5	5528	28	2359	1.164
366	12-11	5547	10	1696	1.022
367	12-16	5311	29	2105	1.206
368	12-24	5598	27	2251	1.178
369 R	12-31	3893		1316	
370	1-14-76	5390	11	1345	1.082
371 R	1-16	5050	38	2007	1.252
372 R	1-23	5120	39	955	1.290
373 R	2-5	5034	35	2319	1.266

STRENGTH DATA 1976

PMR No.	DATE	Liters Treated	% Solids (Feed)	Comp. Strength psi	Raw Feed Specific Gravity
374	2-11	5288	12	1355	1.082
375	2-18	5216	22	1647	1.094
376	2-20	5341	8	2924	1.046
377R	2-26	4983	39	1852	1.272
378	3-5	4788	7	2484	1.040
379R	3-16	5054	38	1793	1.260
380R	4-6	5027	34	2046	1.256
381	4-20	5705	8	858	1.054
382R	4-23	5691	36	1579	1.240
383	4-29	5572	26	1472	1.184
384	5-7	5212	11	2271	1.070
385	5-12	5491	3	2154	1.006
386R	5-19	6091	36	1969	1.270
387R	6-8	5153	33	1043	1.252
388	6-22	5381	11	2339	1.118
389	6-24	5163	24	1170	1.160
390R	7-13	4938	36	2007	1.246
391R	7-20	5077	38	1248	1.336
392	7-22	9071	10	1647	1.056
393	7-28	3758	8	1910	1.082
394R	8-26	5275	37	1715	1.280

STRENGTH DATA - 1976 - 1977

PMR No.	DATE	Liters Treated	% Solids (Feed)	Cylinder Comp. Strength psi	Raw Feed Specific Gravity
No Pug Mill Runs were made during September					
395 R	10-5	5327	37	1852	1.270
396 R	10-13	5246	37	1452	1.268
397 R	11-5	4784	35	1608	1.236
398	11-12	5556	25	1569	1.154
399 R	11-18	4938	36	1725	1.266
400 R	11-24	5216	33	1228	1.242
401 R	12-21	4938	36	1521	1.30
402 R	12-27	5063	35	2008	1.25
403	1-7-77	5870	30	1842	1.22
404 R	1-28	5730	37	838	1.26
405	2-3	6041	10	1092	1.09
406 R	2-10	5652	36	780	1.27
407	3-4	5110	12	2680	1.01
408 R	3-10	5499	36	1784	1.26
409	3-23	4206	21	1170	1.15
410	4-7	5488	10	1998	1.03
411 R	4-14	5119	35	2066	1.26
412 R	5-3	5150	35	1764	1.26
413 R	5-5	5171	35	1023	1.27
414	5-18	5450	14	1959	1.10

		STRENGTH		DATA	1977		
DMR No.	Date	Liters Treated	% Solids (Feed)			Cylinder Compressive Strength psi	Raw Feed Specific Gravity
415 R	5-26	5055	36			1657	1.27
416 R	6-14	5240	37			2495	1.26
417	6-24	5710	12			897	1.07
418 R	7-7	4960	27			1618	1.22
419	7-20	5428	12			634	1.12
420 R	8-26	5464	38			1433	1.30
421 R	9-8	5607	35			1472	1.28
422 R	9-21	5194	37			975	1.28
423 R	9-23	4984	38			1335	1.29
424	10-4	6052	18			1638	1.17
425 R	10-19	5003	36				1.29
426 R	11-4	4838	36				1.27
427 R	11-15	5563	37				1.28
428 R	12-9	7085					1.25
429 R	12-15	5472					1.28
				1978			
430 R	1-5-78	5545	37				1.26
431 R	1-13	2654	37				1.24
432 R	1-26	5612	36				1.27
433 R	3-2	5324	36				1.30

Appendix B

Radioactive Solid Waste Disposal Record Forms for CMPs

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Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number S 8 6 3429		HSE-7 Waste Management Ext. 6035, MS J592		
2. Date M M D D Y Y 09 3 0 8 6	3. Retrievable Serial Number 001150	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A716

6. Waste Description TRU cement waste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at		
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8 M	3	1

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T	11. Additional Description of Packaging and Packaging Materials Area TT Risk 5004102
--	---

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code	
AM 241	2.928	E	10 M		E	A			
PU 238	3.600	E	3 M		E	A			
PU 239	1.427	E	1 M		E	A			
		E			E				
		L			E				
		E			E				

Waste Generator (Print Name Here) Earl J. Cox		HSE-7 (7-10-11 Area Representative (Print Name Here) Joe A. Vigil		APPROVALS arrived @ 1255 9/30/86	
Signature of Waste Generator Earl J. Cox		Signature of HSE-7 Representative Joe A. Vigil		Additional Signatures (Optional)	

13. Date Disposed M M D D Y Y 09 3 0 8 6	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 6 T 9 C	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received Ke	Logbook Ke	Computer A.P.	Verified D.V.
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter		Date 9/30/86	Date 9/30/86	Date 10/1	Date 10/3

Los Alamos

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3430

HSE-7 Waste Management
Rev. 5/86 MS J532

2. Date

M M D D Y Y

09/30/86

3. Retrievable

Serial Number

001151

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-7 21

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums No. Gal.

Wooden Crates No. Volume-ft³

8. Gross Volume

Amount

(M = meter³
F = foot³
G = gallon)

2.8 M³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

1

0

10. Gross Weight

Amount

(K = kilogram
P = pound
T = ton)

64 T

11. Additional Description of Packaging and Packaging Materials

AREG TRSWD S004103

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
AM 2-412-928	E-10M					A		
PU 238 3-600	E-15M					A		
PU 239 1-427	E-11M					A		
	E							
	E							
	E							
	E							

Waste Generator (Print Name Here)

Earl J. Cox

APPROVALS

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Approved @ 0950 9/30/86

Additional Signatures (Optional)

Earl J. Cox by gm

Joe A. Vigil

13. Date

Disposed

M M D D Y Y

09/30/86

14. Disposal/Storage Location

Area

Shaft

Pit

Post(s)

Layer

Pos.

G

2

9

6

T

7

9

C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

DP

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

9/30/86

Date

9/30/86

Date

9/1

Date

10/3

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Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number
S 8 6 3431

HSE-7 Waste Management
Ext. 6095, MS 1592

2. Date
M M D D Y Y
1 0 0 1 8 6

3. Retrieval
Serial Number
0 0 1 1 5 7

4. Origin of Waste
Group TA Building Wing Room
HSE-7 2 1

5. Waste
Code
A 7 6

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2.	0.

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
65 T	

11. Additional Description of Packaging and Packaging Materials

Area T RSKW 5760287

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
AM 241	3.03 0	E	10 M		E	A		
PU 238	2.67 0	E	13 M		E	A		
PU 239	4.08 0	E	10 M		E	A		
MF P	5.00 0	E	1 C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-7/10-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by JM	Joe A. Vigil	

13. Date Disposed

M M D D Y Y
1 0 0 1 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	15	7	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAZAR

Received

28

Logbook

28

Computer

28

Verified

28

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number HS 10-2A (3/86)

Date

10-1-86

Date

10-1-86

Date

10-1-86

Date

10-1-86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

NOTE: Read instructions on back carefully before completing this form.

1. Form Number				
S	8	6	3432	

Ext. 6095, MS. 1592

2. Date
M M D D Y Y
09 3 08 6

3. Retrievable
Serial Number

001158

4. Origin of Waste				
Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code
A 7 6

6. Waste Description
TRU cement paste OLD CMP 40 TA 54

7. Numbers of Waste Packages						
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		
		No.	Gal.	No.	Volume-ft ³	
	●		●		●	

8. Gross Volume	
Amount	$M = \text{meter}^3$ $F = \text{foot}^3$ $G = \text{gallon}$
1278	M^3

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)

10. Gross Weight	
Amount	(K = kilogram P = pound T = ton)
647	

11. Additional Description of Packaging and Packaging Material															
A	r	e	a	T	R	S	W	D	S	7	6	0	2	8	8

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
AM 241	3.030	E	10M	♦	E	A					
PU 238	2.670	E	3M	♦	E	A					
PU 239	4.080	E	10M	♦	E	A					
MF P	5.000	E	14C	♦	E	A					
	♦	E		♦	E						
	♦	E		♦	E						

APPROVALS <i>Arrived @ 1355 9/30/81</i>		
Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
<i>Earl J. Cox</i>	<i>Joe A. Vigil</i>	
<i>Earl J. Cox</i>	<i>Joe A. Vigil</i>	

13. Date Disposed					
M	M	D	D	Y	Y
2	9	2	0	8	6

14. Disposal/Storage Location						
Area	Shaft	Pit	Post(s)	Layer	Pos	
E		29	6	77	9	C

[illegible]

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received RC	Logbook RC	Computer RC	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter	Date 9/30/86	Date 2/30/86	Date 10/1	Date 10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S 8 6 3433

2. Date
M M D D Y Y
09 3 08 6

3. Retrieval
Serial Number
001159

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste Code
A76

6. Waste Description
TRU Cement Waste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 M³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.5 T

11. Additional Description of Packaging and Packaging Materials
Area T RSKWA S760289

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
AM 241	3.030	E	10 M		E	A		
PU 238	2.670	E	3 M		E	A		
PU 239	4.080	E	10 M		E	A		
MFP	5.000	E	4 C		E	A		
		E			E			
		E			E			

APPROVALS arrived @ 1030 9/20/88
Waste Generator (Print Name Here) Earl J. Cox
HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil
Signature certifies that waste is in accordance with all applicable Federal, State and local requirements.
Signature certifies that waste package or shipment is safe to handle and transport.

13. Date Disposed
M M D D Y Y
09 3 08 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 7 T 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER
Signature certifies that waste acceptance criteria and all disposal requirements were met.
(Signature) Keith Carter
Received KC Date 9/20/88
Logbook KC Date 9/20/88
Checked by [Signature] Verified by [Signature]

7-2225

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HE-7 Waste Management
Ext 6095, MS J592

1. Form Number
S 8 6 3434

2. Date
M M D D Y Y
09 30 86

3. Retrievable
Serial Number
001152

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
218 M³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 0

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
67 T

11. Additional Description of Packaging and Packaging Materials
AREA T RSWD 5760312

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
AM 241	54.5	1	E 10 M	♦	E	A		
PU 238	24.0	0	E -3 M	♦	E	A		
PU 239	12.2	0	E 1 M	♦	E	A		
MFP	18.8	0	E -3 C	♦	E	A		
				♦	E			
				♦	E			

APPROVALS
Waste Generator (Print Name Here) Earl J. Cox
HE-7 Waste Management Representative (Print Name Here) Joe A. Vigil
Signature certifies that waste is in accordance with all applicable disposal requirements. Signature certifies that waste package is suitable for storage, handling, and transport.

13. Date
Disposed
M M D D Y Y
09 30 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 296 T7 9 C

15. Shaft Surface Dose
mr/hr

HE-7 Waste Management Representative (Print Name Here) KEITH CARTER
Received Date 9/30/86
Logbook Date 9/30/86
Computer Date 10/1
Verified Date 10/3

7-2226

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S 8 6 3435

2. Date
M M D D Y Y
0 9 3 0 8 6

3. Retrievable
Serial Number
0 0 1 1 5 3

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A 7 6

6. Waste Description
TRU CEMENT PASTE OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
28 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 0

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.5 T

11. Additional Description of Packaging and Packaging Materials
Area T ASK 5760313

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
AM 241	9.423	E	10 M		E			
PU 238	2.600	E	3 M		E			
PU 239	1.220	E	1 M		E			
MF P	1.880	E	3 C		E			
		E			E			
		E			E			

APPROVALS *initials* 2/10/86 2/30/86
Waste Generator (Print Name Here) *Earl J. Cox*
HSE-1/-10/-11 Area Representative (Print Name Here) *Joe A. Vigil*
Additional Signatures (Optional)
Signature certifies that waste is in accordance with all applicable disposal requirements. *Earl J. Cox*
Signature certifies that waste packaging or shipment is safe to handle and transport. *Joe A. Vigil*

13. Date Disposed
M M D D Y Y
0 9 3 0 8 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 296 T7 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) *KEITH CARTER*
Received *Kc* Logbook *Kc* Computer *92* Verified *92*
Signature certifies that waste acceptance criteria and all disposal requirements were met. *Keith Carter*
Date 9/30/86 Date 9/30/86 Date 10/1/86

7-227

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number S 8 6 3436		2. Date M M D D Y Y 09 30 86		3. Retrievable Serial Number 001154		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	-------------------------	--

6. Waste Description TRU element paste OLD CMP TO TA 54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card- Board Boxes	Drums No. Gal.		Wooden Crates No. Volume-ft ³		Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8 m ³			0

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area 7 RS 40 S 76 C 314									
6.5T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
AM 241	3.9 48	E	10 M		E	A					
PU 238	2.6 00	E	-3 M		E	A					
PU 239	1.2 20	E	11 M		E	A					
MFP	1.8 80	E	-3 C		E	A					
		E			E						
		E			E						

APPROVALS *signed @ 1030 9/30/86*

Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
Signature certifies that waste is in accordance with all applicable Federal Regulations Earl J. Cox by M.		Signature certifies that waste package or shipment is safe to handle and transport Joe A. Vigil			

13. Date Disposed	
M M D D Y Y	
09 30 86	

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29 6	T7	9	C

15. Shaft Surface Dose	
mr/hr	

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received Kc	Logbook Kc	Computer RS	Verified DR
Signature certifies that waste acceptance criteria and all disposal requirements were met. Keith G. Ju		Date 9/30/86	Date 9/30/86	Date 10/1	Date 10/3

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This form is to be completed by the waste generator before disposal.

1. Form Number

S 8 6 3437

HSE-7 Waste Management
Rev. 09/86 MS-0592

2. Date

M M D D Y Y

09 30 86

3. Retrieval Serial Number

001155

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement post OLD CMP to TA-54

7. Numbers of Waste Packages

Plastic Bags Card-Board Boxes Drums No Gal No Volume-ft³

8. Gross Volume

Amount (M = meter³, F = foot³, G = gallon)

2.8 M³

9. Package Radiation at

Surface (mr/hr) 1 Meter (mr/hr)

2

1

10. Gross Weight

Amount (K = kilogram, P = pound, T = ton)

6.8 T

11. Additional Description of Packaging and Packaging Materials

AREO TRS W D S 760315

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
AM 241	3.948	E	10M	+	E	A		
PU 238	2.600	E	3M	+	E	A		
PU 239	1.220	E	1M	+	E	A		
MFP	1.880	E	3C	+	E	A		
		E		+	E			
		E		+	E			

APPROVALS *Amended @ 1430 9/30/86*

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by M

Joe A. Vigil

13. Date Disposed

M M D D Y Y
09 30 86

14. Disposal/Storage Location

Area Shaft Pit Post(s) Layer Pos.
G 296 T7 9 C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

QSD

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

9/30/86

Date

9/30/86

Date

10/1

Date

10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of form carefully before using this form.

1. Form Number S 8 6 3438		2. Date M M D D Y Y 09 30 86		3. Retrievable Serial Number 001156		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
--------------------------------	--	------------------------------------	--	---	--	--	--	--	--	-------------------------	--

6. Waste Description TRU cement A waste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Ca.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	Meter (mr/hr)
						208 m ³		2	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSWD S7603V6									
66 T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)		Account	Project Code		
AM 241	3.948	E-10	M			E	A				
PU 238	2.600	E-13	M			E	A				
PU 239	1.200	E-11	M			E	A				
MF P	1.880	E-13	C			E	A				
		E				E					
		E				E					

Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil		APPROVALS Amended 1430 5/30/86	
Signature of waste generator Earl J. Cox		Signature of waste generator Joe A. Vigil		Additional Signatures (Optional)	

13. Date Disposed M M D D Y Y 09 30 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 6 T 9 C						15. Shaft Surface Dose mr/hr	
--	--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer KD	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met Keith Carter		Date 7/30/86	Date 9/30/86	Date 10/1	Date 10/3

7-2280

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3439

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

093086

3. Retrievable Serial Number

001163

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-7	21			

5. Waste Code

A74

6. Waste Description

TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2	1

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

AREP T PSWD ST60317

12. Radionuclide Content

SS Materials Write-Off

Nuclide	Amount	±	(C = curie m = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
AM 241	2.830	E	10M		E	A		
PU 238	2.130	E	3M		E	A		
PU 239	7.170	E	10M		E	A		
MFP	2.670	E	4C		E	A		
		E			E			
		E			E			

APPROVALS moved @ 1430 9/30/86

Waste Generator (Print Name Here)

Earl J Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste is in accordance with applicable
Hazardous Waste Regulations

Earl J. Cox

Signature certifies that waste packaging and shipment
is safe to handle and transport

Joe A. Vigil

13. Date Disposed

M M D D Y Y
093086

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	6	T	9 C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Control

KS

Verify

KS

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date

9/30/86

Date

9/30/86

Date

10/1/86

Date

10/1/86

7-2231

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3440		3. Retrievable Serial Number 001164		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
2. Date M M D D Y Y 092686									

6. Waste Description TRU cement paste OLD CMP TO TO 64											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		3	

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T PSWD 5760318									

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Accou	Project Code			
Am 241	2.830	E	10M		E	A					
Pu 238	2.130	E	-3M		E	A					
Pu 239	7.170	E	10M		E	A					
MFP	2.670	E	-4C		E	A					
		E			E						
		E			E						

Waste Generator (Print Name Here)		HSE-1/-10 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J. Cox		Joe A. Vigil			
Earl J. Cox		Joe A. Vigil			

13. Date Disposed M M D D Y Y 092686		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 18T 91 C					15. Shaft Surface Dose mr/hr	
--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) Andrew C. Cerny		Received AC	Logbook AC	Computer K2	Verified DP
Signature certifies that waste acceptance criteria and disposal requirements were met		Date 9/26/86	Date 9/26/86	Date 10/1	Date 10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of this form before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S 8 6 3441

2. Date
M M D D Y Y
0 9 2 6 8 6

3. Retrievable
Serial Number
0 0 1 1 4 5

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A716

6. Waste Description
TRU cement paste OLD IMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No Volume-ft³

8. Gross Volume
Amount (M = m³, F = foot³, G = gal.)
2.8 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)
3.0

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.3 T

11. Additional Description of Packaging and Packaging Materials
Area T RSWD S760319

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU 239	74170	E	±0M		E	A					
AM 241	2830	E	±0M		E	A					
PU 238	2130	E	±3m		E	A					
MF P	2670	E	±4C		E	A					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J Cox
HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Viger
Additional Signatures (Optional)
Earl J. Cox by M. Joe A. Viger

13. Date
Disposed
M M D D Y Y
0 9 2 6 8 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 09T 10 C

15. Shaft Surface Code
mr/hr

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACH
Signature certifies that waste acceptance criteria and all disposal requirements were met
Received AC Logbook AC Computer 25 Verified 25
Date 9/26/86 Date 9/26/86 Date 9/30/86 Date 10/1/86
Form Number HS 10-2A (9-86)

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This form is to be filled out by the waste generator and the waste management representative.

1. Form Number S 8 6 3442		2. Date M M D D Y Y 0 9 2 5 8 6		3. Retrieval Serial Number 0 0 1 1 6 9		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76	
------------------------------	--	---------------------------------------	--	---	--	--	--	--	--	--	----------------------	--

6. Waste Description TRU cement paste OLD AMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crate No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28	M ³	1	0

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T R S W A S 7 6 0 3 2 2									
6.3	T										

12. Radionuclide Content										SS Materials: Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
Pu 239	1.2	0.0	E	1M		A					
Pu 238	4.1	5.0	E	-3M		A					
Am 241	3.2	3.0	E	10M		A					
MFP	1.3	0.0	E	-4C		A					
			E								
			E								

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-7/10/11 Area Representative (Print Name Here) Tor A. Vigil	Additional Signatures (Optional)
Earl J. Cox by [Signature]	Tor A. Vigil by [Signature]	

13. Date Disposed M M D D Y Y 9 2 5 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 6 29 9 T 10 C						15. Shaft Surface Dose mr/hr	
---	--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACH		Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computer 22 Date 9/30	Verified DP Date 10/3/86
Signature certifies that waste acceptance criteria and disposal requirements were met. [Signature]					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S 8 6 3443

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date
M M D D Y Y
09 25 86

3. Retrievable Serial Number
001173

4. Origin of Waste				
Group	TA	Building	Wing	Room
45E	721			

5. Waste Code
376

6. Waste Description
TRU cement paste OLD CMP TO TRU

7. Numbers of Waste Packages					
Plastic Bags	Card-Board Boxes	Drums	Wooden Crates		
No.	Gal.	No.	Volume-ft ³		

8. Gross Volume	
Amount	(M = m ³ , F = foot ³ , G = gallon)
28 m ³	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)
	10

10. Gross Weight	
Amount	(K = kilogram, P = pound, T = ton)
653 T	

11. Additional Description of Packaging and Packaging Materials
Area TRSUW 5760323

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU238	3.280	E-3M				A		
PU239	8.280	E+0M				A		
AM241	4.640	E+0M				A		
MFP	3.000	E-4C				A		
		E						
		E						

Waste Generator (Print Name Here)		HSE-1/-10/-11 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J. Cox		Joe A. Vigil			
Earl J. Cox by JM		Joe A. Vigil			

13. Date Disposed
M M D D Y Y
09 25 86

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos
G		29	09T/10	10	C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
ANDREW CATACH		AC	AC	9/2	DP
Signature certifies that waste acceptance criteria and all disposal requirements were met		Date	Date	Date	Date
7/25/86		9/25/86	7/30	10/3	
Form Number: HSE-10-2A (3/86)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This record is to be used for the disposal of radioactive solid waste.

1. Form Number S 8 6 3444		3. Retrievable Serial Number 001174		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
2. Date M M D D Y Y 092586									

6. Waste Description PU cement paste OLD CMP TO TA 54
--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No.	Ga.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8 M ³		1	0

10. Gross Weight Amount (K = kilogram P = pound T = ton) 16.7 T	11. Additional Description of Packaging and Packaging Materials Area T RSWD 5760324
---	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	5.280	E	-3A		E	A					
PU 239	5.280	E	-40M		E	A					
AM 241	4.440	E	-40M		E	A					
MF P	3.000	E	-4C		E	A					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) TOP A. Vigil	Additional Signatures (Optional)
Earl J. Cox by SM	TOP A. Vigil	

13. Date (Disposed) M M D D Y Y 9/25/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. 6 2A 9T 10 9 C	15. Shaft Surface Dose mr/hr
--	--	---------------------------------

Waste Management Representative (Print Name Here) ANDREW GARCIA	Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computer Q.72 Date 9/30	Verified W.8 Date 10/3/86
Signature certifies that waste acceptance criteria and all disposal requirements were met.				

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number
S B 6 3445

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date M M D D Y Y 09 30 86	3. Retrievable Serial Number 001160	4. Origin of Waste Group TA Building Wing Room HSE-7 21	5. Waste Code A716
------------------------------------	---	---	--------------------------

6. Waste Description TRU cement waste OLD CMP TO TA 54

7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³	8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 28.3	9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 0
---	---	--

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 637	11. Additional Description of Packaging and Packaging Materials Area T ASWD 5760379
--	--

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code	
PU 238 246 70	E -3 M					A			
PU 239 408 0	E 40 M					A			
AM 241 303 0	E 10 M					A			
MF P 500 0	E -4 C					A			
	E								
	E								

Waste Generator (Print Name Here) Earl J. Cox	APPROVALS HSE-17-18-11 Area Representative (Print Name Here) Joe A. Vigil	0950 9/30/86 Additional Signatures (Optional)
Signature certifies that waste acceptance criteria and all disposal requirements were met		

13. Date Disposed M M D D Y Y 09 30 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 7 T 9 C	15. Shift Surface Dose mr/hr
--	--	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received KC	Logbook KC	Computer Q2	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter	Date 9/30/86	Date 9/30/86	Date 10/1	Date 10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of this form before using.

1. Form Number
S 8 1 3446

Waste Management Form WMS-1002

2. Date
M M D D Y Y
09 30 86

3. Retrieval/Serial Number
001161

4. Origin of Waste				
Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code
A76

6. Waste Description
TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages				
Plastic Bags	Card-Board Boxes	Drums	Wooden Crates	
No	No	Gal	No	Volume-ft ³

8. Gross Volume	
Amount	(M = meter ³ F = foot ³ G = gallon)
28M	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)
3	1

10. Gross Weight	
Amount	(K = kilogram P = pound T = ton)
66T	

11. Additional Description of Packaging and Packaging Material
Area T ASKUD S7612380

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	246 7 0	E	-3M		E	A		
PU 239	440 8 0	E	10M		E	A		
AM 241	340 3 0	E	10M		E	A		
MFP	540 0 0	E	-4C		E	A		
		E			E			
		E			E			

Waste Generator (Print Name Here)		APPROVALS		Checked @ 1355 9/30/86	
Earl J. Cox		HSE-7/10-11 Area Representative (Print Name Here)		Additional Signature (Optional)	
Earl J. Cox		Joe A. Vigil			

13. Date Disposed
M M D D Y Y
09 30 86

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	6 T7	9	C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
KEITH CARTER	Kc	Kc	CD	DP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature)	Date	Date	Date	Date
Keith Carter	9/30/86	9/30/86	10/1	10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S B S 3447

2. Date
M M D D Y Y
1 0 0 1 8 6

3. Retrievable
Serial Number
0 0 1 1 6 2

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A716

3. Waste Description

TRU Cement paste OKD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2	0

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSKWD S760381

12. Radionuclide Content

Nuclide	Amount		±	(C = curie M = gram)	Error on Amount		±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
									Account	Project Code
PU 238	24670	E	-3M				E	A		
PU 239	4080	E	40A				E	A		
AM 241	3030	E	10M				E	A		
AFP	5000	E	14C				E	A		
		E					E			
		E					E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Earl J. Cox

Signature certifies that waste package or shipment is safe to handle and transport.

Joe A. Vigil

13. Date
Disposed

M M D D Y Y
1 0 0 1 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	56	9C	

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SANCHEZ

Received

8

Logbook

29

Computer

20

Verified

80

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Eugene C. Sanchez

Date

1-1-86

Date

10-1-86

Date

10-1-86

Date

10-1-86

Form Number MS-10-2A (2/80)

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This form is to be used for the disposal of radioactive solid waste.

1. Form Number S S N 3448		2. Date M M D D Y Y 09 05 86		3. Retrievable Serial Number 001166		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	--	-------------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-84											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation rate	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8	m ³	1	0

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RESWD 5760764									
600	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU239	1.200	E	A1M		E	A					
AM241	3.230	E	A10M		E	A					
PU238	6.150	E	-3A		E	A					
MFP	1.300	E	-14C		E	A					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-17-18-19 Area Representative (Print Name Here) Joe A. Kipph	Additional Signatures (Optional)
Signatures certify that waste acceptance criteria and all disposal requirements were met.		

13. Date Disposed M M D D Y Y 09 05 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 6 29 9 C	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-17 Waste Management Representative (Print Name Here) C. J. Kipph	Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computed AC Date 9/30/86	Verified DP Date 10/3/86
Signature certifies that waste acceptance criteria and all disposal requirements were met.				

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSF-7 Waste Management
Ext. 6095, MS J592

1. Form Number S 8 8 3149		2. Date M M D D Y Y 09 25 86		3. Releasable Serial Number 001167		4. Origin of Waste Group TA Building Wing Room HSF-7 21				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---------------------------------------	--	---	--	--	--	----------------------	--

6. Waste Description TRU cement waste OLD MP 10 TA 54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Cardboard Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³	Amount	(M = meters ³ C = cubic G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.5 M		1	0

10. Gross Weight Amount (K = kilogram P = pound T = ton) 6.6 T		11. Additional Description of Packaging and Packaging Materials Area TRS WP 5760765									
--	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = cubic M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 239	1.8 00	E	1A			A					
PU 238	6.1 50	E	3A			A					
AM 241	3.2 30	E	10M			A					
AFP	1.3 00	E	4C			A					
		E									
		E									

Waste Generator (Print Name Here) Earl J. Cox		HSF-7 Waste Management Representative (Print Name Here) For a. Kopl		Additional Signatures (Optional)	
Signature certifies that waste is in accordance with all applicable laws and regulations.		Signature certifies that waste packaging and shipment is safe to handle and transport.			
Earl J. Cox		For a. Kopl			

13. Date Disposed M M D D Y Y 09 25 86		14. Disposal/Storage Location						15. Shaft Surface Dose mr/hr	
Area	Shaft	Pit	Post(s)	Layer	Pos.				
G		29	9	9	C				

HSF-7 Waste Management Representative (Print Name Here) For a. Kopl		Received AC	Logbook AC	Computer J2	Verified J2
Signature certifies that waste acceptance criteria and all disposal requirements were met.		Date 9/25/86	Date 9/25/86	Date 9/25/86	Date 9/25/86
Form Number: HSF-7-24 (Rev. 10/85)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

And, finally, the *Journal of Management Education* is pleased to announce that the journal will be publishing a special issue on "The Role of the Journal of Management Education in the Field of Management Education." This special issue will be edited by the journal's Editor, Dr. [Name], and will feature articles from the journal's past and present authors. The special issue will be published in the next issue of the journal, and we hope that it will provide a valuable resource for the field of management education.

[illegible]

8. Waste Description	
TRU	cement paste OLD EMP TO TA BX

7. Number of Waste Packages								8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	$\begin{pmatrix} M = \text{meter}^3 \\ F = \text{foot}^3 \\ G = \text{gallon} \end{pmatrix}$		Surface (mr/hr)	1 Meter (mr/hr)	
		No.	Gal.	No.	Volume-ft ³						
	●	●	●	●	●	●			●	○	
								$28 m^3$			

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K - kilogram P - pound T - ton)	A 1 e a T R 5 4 0 S 7 6 0 7 6 6	
6.2 T			

12. Radionuclide Content										SS Materials Write Off	
Nuclide	Amount	±	C = curie M = gram	Error on Amount		Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 239	1.2		E + 1M			A					
PU 238	6.15		E - 3M			A					
AM 241	3.23		E + 0M			A					
MF P	1.300		E - 4C			A					
			E								
			E								

APPROVALS

Waste Generator (Print Name Here) <i>Earl J Cox</i>	HSE-17-10-11 Area Representative (Print Name Here) <i>Tom H. Vignil</i>	Additional Signature (Optional)
<i>Earl J Cox by [Signature]</i>	<i>Tom H. Vignil</i>	

13. Date Disposed						
M	M	D	D	Y	Y	
0	9	2	5	8	6	

14. Disposal/Storage Location						
Area	Shaft	Pit	Post(s)	Layer	Pos	
G			29	9	T/10	10 C

15. Shaft Surface Dose						
mr/hr						

No. W-1 Management Representative (Print Name Here) REV. J. CATANACH		Received 9/25/84	Logbook AC	Computer QJ	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met. <i>(Signature)</i>		Date AC	Date 9/25/84	Date 9/30	Date 10/6/84

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of this form before completing this form.

1. Form Number S 8 6 3451		2. Date M M D D Y Y 0 9 2 5 8 6		3. Retrievable Serial Number 0 0 1 1 7 0		4. Origin of Waste Group TA Building Wing Room 455-721				5. Waste Code A 7 6	
------------------------------	--	---------------------------------------	--	---	--	--	--	--	--	------------------------	--

6. Waste Description
TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Surface (mr/hr)	1 Meter (mr/hr)

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T		11. Additional Description of Packaging and Packaging Materials Area T ASWD 5761172	
--	--	--	--

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 239	1.2		E 1 M			A		
PU 238	6.15		E 3 M			A		
Am 241	3.23		E 10 M			A		
MF P	1.300		E 4 C			A		
			E					
			E					

Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) Earl J. Cox		Additional Signatures (Optional)	
Signature of Waste Generator Earl J. Cox		Signature of Area Representative Earl J. Cox			

13. Date Disposed M M D D Y Y 0 9 2 5 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 9 T 10 10 C				15. Sheet Surface Dose mr/hr	
---	--	---	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACH		Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computer DP Date 9/30/86	Verified DP Date 10/1/86
Signature certifies that waste acceptance criteria and all disposal requirements were met					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3452

2. Date

M M D D Y Y
09 26 86

3. Retrieval

Serial Number

001171

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-7	21			

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TR 24

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
4	1

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
6.4 T	

11. Additional Description of Packaging and Packaging Materials

ASPER T 2540 5761173

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount		Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
					±		Account	Project Code
PU 239	1.2		E 1 M			A		
PU 238	4.15		E -3 M			A		
Am 241	3.23		E 1.6 M			A		
MF P	1.300		E -4 C			A		
			E					
			E					

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox	Joe A. Vigil	

13. Date Disposed

M M D D Y Y
09 26 86

14. Disposal/Storage Location

Area	Shelf	Pit	Post(s)	Laye.	Pos
61		27	89	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

Signature certifies that waste acceptance criteria and all disposal requirements were met.
(Signature) Andrew Catamar

Received	Logbook	Computer	Verified
AC	AC	AC	AC
Date	Date	Date	Date
9/26/86	9/26/86	9/30	10/1/86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S	8	6	3453
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HSE 7 Waste Management
Ext 6095 MS J592

2. Date					
M	M	D	D	Y	Y
0	9	2	5	8	6

3. Retrievable Serial Number	001175
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4. Origin of Waste									
Group		TA	Building		Wing	Room			
456	-72	/							

5. Waste Code
A76

6. Waste Description

TRU cement Paste OLD CMP TO TA 54

7. Numbers of Waste Packages					
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³
1	1	1	1	1	1

2. Gross Volume	
Amount	$\left(\begin{array}{l} M = \text{meter}^3 \\ F = \text{foot}^3 \\ G = \text{gallon} \end{array} \right)$
117.8 M	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)

10. Gross Weight	
Amount	(K = kilogram P = pound T = ton)
6.4 T	

11. Additional Description of Packaging and Packaging Materials															
A	r	e	a	T	R	S	W	D	S	7	3	/	/	8	5

12. Radionuclide Content											SS Materials Write-Off	
Nuclide	Amount			±	(C = curie M = gram)	Error on Amount			±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	3	2	8	0	E	-3	M					
PU 239	8	2	8	0	E	+0	M					
Am 241	4	6	4	0	E	+0	M					
U 235	3	0	0	0	E	-4						
					E							
					E							

APPROVALS

Waste Generator (Print Name Here)		HSE-1/-10/-11 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J. Cox		Joe A. Vigil			
Earl J. Cox		Joe A. Vigil			

13. Date Disposed					
M	M	D	D	Y	Y
0	9	2	5	8	16

14. Disposal/Storage Location						
Area	Shaft	Pit	Post(s)	Layer	Pos	
6		29	10	9	C	

15. Shaft Surface Dose

mr/hr

_____ ● _____

HSE-7 Waste Management Representative (Print Name Here)				Received	Logbook	Computer	Verified
ANDREW STANACH				AC	AC	AS	15/2/86
Signature certifies that waste acceptance criteria and all disposal requirements were met				Date	Date	Date	Date
Signature				9-25-86	9-25-86	9/30	9/30
Form Number HSE 10-2A (3/86)							

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 0454		2. Date M M D D Y Y 09 25 86		3. Retrievable Serial Number 001178		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
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6. Waste Description TRU cement paste OLD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages				8. Gross Volume				9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)		
						2.8	M ³	1	0		

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T R S W D S 761187									
65.7											

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
PU 239	3.600	-1M				A			
PU 238	1.330	-2M				A			
AM 241	3.300	E				A			
MER 54	7.000	E				A			
		E							
		E							

Waste Generator (Print Name Here) Earl J Cox		APPROVALS HSE-1/-16/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
Earl J Cox by GM		Joe A. Vigil			

13. Date Disposed M M D D Y Y 09 25 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G1 29 19T10 10 C						15. Shaft Surface Does mr/hr	
--	--	--	--	--	--	--	--	---------------------------------	--

HSE-1 Waste Management Representative (Print Name Here) ANDREW C. [Signature]				Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computer QD Date 9/30	Verified DP Date 10/3
Signature certifies that waste acceptance criteria and all disposal requirements were met							

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3455		3. Retrievable Serial Number 001177		4. Origin of Waste Group TA Building Wing Room HSE-72V				5. Waste Code A76	
2. Date M M D D Y Y 092586									

HSE-7 Waste Management
Ext 6095 MS J592

6. Waste Description TRU cement paste OLD CMP TO TD-64
--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at		
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 m ³	1	0

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T	11. Additional Description of Packaging and Packaging Materials Area T RSWD 5761188
---	---

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined by (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 239	346 0 0	E	-6A		E			
PU 238	1493 0	E	-2A		E	A		
AM 241	533 0 0	E	-10A		E	A		
MFP	400 0 0	E	-4C		E	A		
		E			E			
		E			E			

Waste Generator (Print Name Here) Earl J Cox		APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
<i>Earl J Cox</i>		<i>Joe A. Vigil</i>			

13. Date Disposed M M D D Y Y 092586	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G1 29 189 9 C	15. Shaft Surface Dose mr/hr
---	---	--

HSE-7 Waste Management Representative (Print Name Here) <i>Andrew C. ...</i>	Received AC Date 9/25/86	Logbook AC Date 9/25/86	Computer RJ Date 9/30/86	Verified D.P. Date 10/1/86
Signature certifies that waste acceptance criteria and all disposal requirements were met				
Form Number HS-10-2A (3/88)				

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3456		2. Date M M D D Y Y 09 25 86		3. Retrievable Serial Number 001176		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
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6. Waste Description TRU cement paste OLD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						248	M	1	0

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.6 T		11. Additional Description of Packaging and Packaging Materials Area T RS40 5761189									
--	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code			
Am 241	3.300	E	10M		E	A					
MFP	4.000	E	14C		E	A					
Pu 238	1.830	E	3n		E	A					
Pu 239	3.600	E	1M		E	A					
		E			E						
		E			E						

Waste Generator (Print Name Here)			APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here)			Additional Signatures (Optional)		
Earl J. Cox			Joe A. Vigil					
Earl J. Cox			Joe A. Vigil					

13. Date Disposed M M D D Y Y 9 25 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 9 29 09 10 9 C						15. Shaft Surface Dose mr/hr	
---	--	---	--	--	--	--	--	---------------------------------	--

WSE-7 Waste Management Representative (Print Name Here) Signature: Andrew Catanch Date: 9/25/86				Received AC Date: 9/25/86		Logbook AC Date: 9/25/86		Computer RL Date: 9/30		Verified DL Date: 10/3/86	
---	--	--	--	---------------------------------	--	--------------------------------	--	------------------------------	--	---------------------------------	--

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S 8 6 3457

HSE-7 Waste Management
Ext 6095 MSJ597

2. Date
M M D D Y Y
0 9 2 6 8 6

3. Retrievable Serial Number
0 0 1 1 7 9

4. Origin of Waste				
Group	TA	Building	Wing	Room
HSE-7	21			

5. Waste Code
A 7 6

6. Waste Description

TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages			
Plastic Bags	Card-Board Boxes	Drums	Wooden Crates
No	Gal	No	Volume-ft ³

8. Gross Volume	
Amount	(M = meter ³ F = foot ³ G = gallon)
28 m ³	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)
3	5.4

10. Gross Weight	
Amount	(K = kilogram P = pound T = ton)
6.5 T	

11. Additional Description of Packaging and Packaging Materials

Area T RSWA 576119V

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	240 1 0	E	-3M		E	A		
PU 239	47 6 0	E	+0M		E	A		
AM 241	238 9 0	E	+0M		E	A		
MF P	145 3 0	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by [Signature]	Joe A. Vigil by [Signature]	

13. Date Disposed
M M D D Y Y
0 9 2 6 8 6

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos
G		29 8	BT 9	10	C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ANDREW J. CATANACH

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number MS 10-2A (Rev. 10/81)

Received	Logbook	Computer	Verified
AC	AC	Q	Q
Date	Date	Date	Date
9/26/86	9/26/86	9/30	10/1

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3458		3. Retrievable Serial Number 001180		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A716
2. Date M M D D Y Y 09 26 86								

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³				8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 2.8 M ³	9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 3
---	--	--	--	---	--

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T	11. Additional Description of Packaging and Packaging Materials Area T RSWD 5761192
--	--

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	2010		E-3M			A		
PU 239	4760		E-40M			A		
AM 241	2890		E-40M			A		
mFP	1530		E-3C			A		

Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-12/-11 Area Representative (Print Name Here) Joe A. Vignola		Additional Signatures (Optional)
Signature of Waste Generator Earl J. Cox		Signature of Area Representative Joe A. Vignola		

13. Date Disposed M M D D Y Y 09 26 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 88 178 9 C	15. Shaft Surface Dose mr/hr
--	--	---------------------------------

HSE Waste Management Representative (Print Name Here) Signature: [Signature]		Received AC Date 9/26/86	Logbook AC Date 9/26/86	Computer [Signature] Date 9/26/86	Verified D.P. Date 10/3
Signature certifies that waste acceptance criteria and all disposal requirements were met					

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S 8 6 3459

2. Date
M M D D Y Y
09 19 86

3. Retrievable
Serial Number
0101181

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A716

6. Waste Description
TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 M³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)
4.1

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.6 T

11. Additional Description of Packaging and Packaging Materials
Area T RSWO 5761193

12. Radionuclide Content						SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account Project Code
PU 238	2.010	E	-3M		E	A	
PU 239	4.760	E	H0M		E	A	
AM 241	2.890	E	H0M		E	A	
MF P	1.530	E	-3M		E	A	
		E			E		
		E			E		

APPROVALS

Waste Generator (Print Name Here) HSE-7/10/11 Area Representative (Print Name Here) Additional Signatures (Optional)
Earl J. Cox Joe A. Vigil
Signature certifies that waste package meets all applicable disposal requirements. Signature certifies that waste package or shipment is safe to handle and transport.

13. Date
Disposed
M M D D Y Y
09 19 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
61 29 10 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) Received Logbook Amperage Verified
Andrew C. C... AC AC R2 12
Signature certifies that waste acceptance criteria and all disposal requirements were met. Date Date Date Date
9/19/86 9/19/86 10/1/86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3460		3. Retrievable Serial Number 001182		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76
2. Date M M D D Y Y 09/19/86									

6. Waste Description TRU cement paste OGD OMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8	M	4	1

10. Gross Weight Amount (K = kilogram P = pound T = ton) 6.4 T	11. Additional Description of Packaging and Packaging Materials Area T RSWD S761194
--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(G = cure) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU238	2010	E	-3M		E	A					
PU239	4760	E	+0M		E	A					
AM241	2890	E	+0M		E	A					
AFP	1530	E	-3C		E	A					
		E			E						
		E			E						

APPROVALS		
Waste Generator (Print Name Here) Earl J. Cox	HSE-11/10-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox by JM	Joe A. Vigil	

13. Date Disposed M M D D Y Y 09/19/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 10T 9 C	15. Shaft Surface Dose mr/hr
--	--	---------------------------------

Waste Management Representative (Print Name Here) Signature certifies that waste acceptance criteria and all disposal requirements were met.	Received AC Date 9/19/86	Logbook AC Date 9/19/86	Computer DP Date 10/1	Verified DP Date 10/3
---	-----------------------------------	----------------------------------	--------------------------------	--------------------------------

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number S 8 6 3461		2. Date M M D D Y Y 09 26 86		3. Identifiable Serial Number 001183		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A716	
------------------------------	--	------------------------------------	--	--	--	--	--	--	--	--------------------------	--

6. Waste Description TRU cement paste OLD CMP TO YA-64											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8	M ³	3	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSKWD S761195									
63	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)		Account	Project Code		
PU 238	2.0	1.0	E	-3M				A			
PU 239	4.7	6.0	E	+10M				A			
Am 241	2.8	9.0	E	+10M				A			
MF P	1.5	3.0	E	-3C				A			
			E								
			E								

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox by [Signature]	Joe A. Vigil by [Signature]	

13. Date Disposed M M D D Y Y 09 26 86	14. Disposal/Storage Location Area Shal Pit Post(s) Layer Pos. G 219 11 78 110 C	15. Staff Surface Dose mr/hr
--	--	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) Andrew C. [Signature]	Received AC Date 9/26/86	Logbook AC Date 9/26/86	Checked [Signature] Date 9/26/86	Verified [Signature] Date 9/26/86
Signature certifies that waste acceptance criteria and all disposal requirements were met.				

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3462		2. Date M M D D Y Y 0 9 2 6 8 6		3. Retrieval Serial Number 0 0 1 1 8 4		4. Origin of Waste Group TA Building Wing Room HSE-72V				5. Waste Code A76	
------------------------------	--	---------------------------------------	--	---	--	--	--	--	--	----------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8	m ³	3	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSKD S761196									
6.5	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	2.010	E	-3M		E	A					
PU 239	4.760	E	+0M		E	A					
AM 241	2.890	E	+0M		E	A					
MF P	1.530	E	-3C		E	A					

APPROVALS	
Waste Generator (Print Name Here) Earl J. Cox	HSE-17-16/11 Area Representative (Print Name Here) Joe A. Vigil
Signature certifies that waste acceptance criteria and all disposal requirements were met Earl J. Cox	Signature certifies that waste packaging and labeling meets requirements for handling and transport Joe A. Vigil

13. Date Disposed M M D D Y Y 0 9 2 6 8 6		14. Disposal/Storage Location						15. Shaft Surface Dose mr/hr	
		Area	Shaft	Pit	Post(s)	Layer	Pos		
		G1		219	7178	110	C		

HSE-17 Waste Management Representative (Print Name Here) Andrew Catapack		Received AC	Logbook AC	Corriguter R.A.	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met		Date 9/26/86	Date 9/26/86	Date 10/1	Date 10/2

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 9 6 3463		HSE-7 Waste Management Ext. 6095, MS J592		
2. Date M M D D Y Y 0 9 2 6 8 6	3. Retrievable Serial Number 0 0 1 1 8 5	4. Origin of Waste Group TA Building Wing Room H 5 6 - 7 2 1		5. Waste Code A 7 6

6. Waste Description TRU CEMENT ASHES OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at		
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 m ³	3	4

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 64 T	11. Additional Description of Packaging and Packaging Materials Area IT ASKED 5761197
---	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curies, M = gram)	Error or Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)		Account	Project Code		
PU 238	2010	E-3	A		E	A					
PU 239	4760	E-4	M		E	A					
AM 241	2890	E-4	M		E	A					
NEP	1530	E-3	C		E	A					
		E			E						
		E			E						

Waste Generator (Print Name Here) Earl J. Cox		HSE-17-18-19 Area Representative (Print Name Here) Joe A. Vail		Additional Signatures (Optional)	
Signature certifies that waste is manifest and all disposal requirements were met. Earl J. Cox		Signature certifies that waste package or shipment is manifest and all disposal requirements were met. Joe A. Vail			

13. Date Disposed M M D D Y Y 0 9 2 6 8 6	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 173 9 C	15. Shaft Surface Dose mr/hr
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HSE-7 Waste Management Representative (Print Name Here) John C. Cane		Received AC Date 9/26/86	Logbook AC Date 9/26/86	Computer KJ Date 9/26/86	Verified DP Date 10/3
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3464		2. Date M M D D Y Y 09 26 86		3. Retrievable Serial Number 001187		4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A76			
6. Waste Description TRU cement paste OLD CMP TO TASY											
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft ³				8. Gross Volume Amount (M = meter, F = foot, G = gallon) 28 M ³		9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 4 1					
10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T		11. Additional Description of Packaging and Packaging Materials Area T RESWD 5761200									
12. Radionuclide Content											
Nuclide		Amount		±	(C = curie, M = gram)	Error on Amount		±	Amount Determined By (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account Project Code	
PU 238		2.670		E	-3A	♦		E	A		
PU 239		5.670		E	+0M	♦		E	A		
AM 241		4.890		E	+0M	♦		E	A		
MFP		2.330		E	-3C	♦		E	A		
				E		♦		E			
				E		♦		E			
APPROVALS											
Waste Generator (Print Name Here) Earl J. Cox				HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil				Additional Signatures (Optional)			
Earl J. Cox				Joe A. Vigil							
13. Date Disposed M M D D Y Y 09 26 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos C 29 189 9 C				15. Shaft Surface Dose mr/hr					
HSE-1/-10/-11 Waste Management Representative (Print Name Here) Signature certifies that waste acceptance criteria and all disposal requirements were met. [Signature]				Received AC Date 9/26/86		Logbook AC Date 9/26/86		Computer [Signature] Date 9/30/86		Verified [Signature] Date 10/1/86	

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

Waste Management
Rev. 12/95, 12/99

1. Form Number
S 8 6 3465

2. Date
M M D D Y Y
0 9 2 6 8 6

3. Retrieval
Serial Number
0 0 1 1 8 8

4. Origin of Waste
Group TA Building Wing Room
HSE-721

5. Waste
Code
A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA 54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 4 1

10. Gross Weight
(K = kilogram, P = pound, T = ton)
6.5 T

11. Additional Description of Packaging and Packaging Materials
AREA TRUW 5761201

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	2.670	E	-3M		E	A		
PU 239	5.670	E	+0M		E	A		
AM 241	4.890	E	+0M		E	A		
MF P	2.330	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox
HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil
Additional Signatures (Optional)

13. Date Disposed
M M D D Y Y
0 9 2 6 8 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 39 13T 9 C

15. Shaft Surface Does
m/hr

HSE- Waste Management Representative (Print Name Here) Andrew Cananack
Signature certifies that waste acceptance criteria and all disposal requirements were met.
Received AC Logbook AC Computer 22 Verified 22
Date 9/26/86 Date 9/26/86 Date 9/30 Date 10/1/86
Form Number HS 10-2A (3/79)

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number		2. Date		3. Retrieval Serial Number		4. Origin of Waste				5. Waste Code	
S	86	M	M	D	D	Group	TA	Building	Wing	Room	
5466		09/26/86		001186		HSE-721					A76

6. Waste Description	
TRU	cement paste GUP CMP TC TA-24

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	$\begin{pmatrix} M = \text{meter}^3 \\ F = \text{foot}^3 \\ G = \text{gallon} \end{pmatrix}$	Surface (mr./hr.)	1 Meter (mr./hr.)
		No.	Gal.	No.	Volume-ft ³				
•	•	•	•	•	•	28	M ³	3	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pound T = ton)		
		Area T RSWD 5761203	
K 5 T			

12. Radionuclide Content											SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error or: Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code				
PU 238	2.670	E	-3M	•	E	A						
PU 239	5.670	E	+0M	•	E	A						
AM 241	4.890	E	+0M	•	E	A						
MF P	2.330	E	-3C	•	E	A						
	•	E		•	E							
	•	E		•	E							

APPROVALS

Waste Generator (Print Name Here)		HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil		
Earl J. Cox by JH	Joe A. Vigil		

13. Date Disposed		14. Disposal/Storage Location						15. Shaft Surface Desc					
M	M	D	D	Y	Y	Area	Shaft	Pit	Post(s)	Layer	Pos.	m/hr	
0	9	1	6	1	8	G1		219	18T	1/C	C		

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
Andrew Stewart		AC	AC	CD	DP
Signature certifies that waste acceptance criteria and all disposal requirements were met		Date	Date	Date	Date
Andrew Stewart		7/26/86	9/6/86	10/1	10/3
Form Number HS 10-24 (3/83)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3467

Waste Management
Ext. 095 MS 3592

2. Date

M M D D Y Y

09/25/86

3. Retrievable Serial Number

001172

4. Origin of Waste

Group TA Building Wing Room
HSE-721

5. Waste Code

A76

6. Waste Description

TRU Cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
1	0

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T ASWD 576V205

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount		Amount Determined By: A = analysis M = measurement E = estimate	SS Materials Write-Off Account Project Code	
PU 238	3.280	E	3M		E	A		
PU 239	8.280	E	40M		E	A		
AM 241	4.640	E	40M		E	A		
MEP	3.000	E	4C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste disposal was in accordance with all applicable regulations.

Earl J. Cox

Signature certifies that waste package or shipment was properly handled and stored.

Joe A. Vigil

13. Date Disposed

M M D D Y Y
09/25/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
29	09	T	10	C	

15. Shaft Surface Dose

mr/hr

Waste Management

Waste Management Representative (Print Name Here)

Received

Logbook

Computer

Verified

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Date

Date

Date

Date

Form Number HS 10-2A (3/86)

9/25/86

9/25/86

9/30

DB

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3468		2. Date M M D D Y Y 09 17 86		3. Retrieval Serial Number 001198		4. Origin of Waste Group TA Building Wing Room HSE-72V					5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	--	----------------------	--

6. Waste Description TRU Cement Paste OLD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28	m ³	7	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area TR SWD 5762076									
68	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 239	1070	E	10M			A					
PU 238	5650	E	2M			A					
AM 241	3400	E	10M			A					
MFP	1000	E	3C			A					
		E									
		E									

Waste Generator (Print Name Here) Earl J. Cox		HSE-17-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Arrived @ 1430 9/18/86	
Signature certifies that waste per generator shipping manifest is ready for disposal.		Signature certifies that waste per generator shipping manifest is ready for disposal.		Additional Signatures (Optional)	
Earl J. Cox		Joe A. Vigil			

13. Date Disposed M M D D Y Y 09 18 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 112T:13 91 C						15. Shaft Surface Dose mr/hr	
--	--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer R.D.	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met. (S) Keith Carter		Date 9/18/86	Date 9/18/86	Date 10/1	Date 10/3

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Los Alamos, New Mexico 37545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S | 8 | 6 | 3469

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date
M M D D Y Y
09 | 26 | 86

3. Retrievable
Serial Number
00 | 11 | 89

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A76

6. Waste Description

TRU Cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 0

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.3 T

11. Additional Description of Packaging and Packaging Materials

Area TR SWD 5762077

12. Radionuclide Cont.

SS Materials Write-Off														
Nuclide			Amount		±	(C = curie) (M = gram)	Error on Amount			±	Amount Determined By: (A = analysis M = measurement E = estimate)		Account	Project Code
P	U	238	2	0	6	0	E	-2	M		A			
P	U	239	8	7	0	0	E	+0	M		A			
A	M	241	6	4	0	0	E	+0	M		A			
M	F	P	8	7	0	0	E	-3	C		A			
							E							
							E							

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox
HSE-7 Waste Management Representative (Print Name Here) Joe A. Vigil
Additional Signatures (Optional)

13. Date
Disposed
M M D D Y Y
09 | 26 | 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 18T9 10 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CAYANACH

Signature certifies that waste acceptance criteria and all disposal requirements were met

Received Logbook Computer Verified
Date Date Date Date
7/26/86 7/26/86 7/26/86 7/26/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3470		3. Retrieval Serial Number 001190		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code 476
2. Date M D D Y Y 09/19/86								

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at		
Plastic Bags	Card-Board boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³	2	0

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 64.1	11. Additional Description of Packaging and Packaging Materials Area T RSWO 5762078
---	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU 239	8700	E	40M		E	A					
PU 238	2060	E	-2M		E	A					
Am 241	6400	E	40M		E	A					
MFP	8700	E	-3C		E	A					
		E			E						
		E			E						

Waste Generator (Print Name Here)		HSE-1/-10/-11 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J. Cox		Jae A. Vigil			
Earl J. Cox by JM		Jae A. Vigil			

13. Date Disposed M M D D Y Y 9/19/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G1 219 110T11/110C	15. Shaft Surface Dose mr/hr
---	---	---------------------------------

HSE-1/-10/-11 Waste Management Representative (Print Name Here) Signature certifies that waste disposal criteria and all disposal requirements were met		Received AC Date 9/19/86	Logbook AC Date 9/19/86	Computer K.D. Date 10/1	Verified DP Date 10/3
--	--	-----------------------------------	----------------------------------	----------------------------------	--------------------------------

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095 MS-5492

1. Form Number S 8 6 3471		2. Date M M D D Y Y 0 9 1 7 8 6		3. Retrievable Serial Number 0 0 1 1 9 1	4. Origin of Waste Group TA Building Wing Room HSE-7 21	5. Waste Code A 716
-------------------------------------	--	--	--	--	--	-------------------------------

6. Waste Description TRU cement paste OLD CMP TO TA-54
--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						248	m ³	12	2

10. Gross Weight Amount (K = kilogram P = pound T = ton) 647	11. Additional Description of Packaging and Packaging Materials Area T RSWP S762079
---	---

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	24060	E	-2M			A					
PU 239	84700	E	-10M			A					
Am 241	64400	E	-10M			A					
MFP	84700	E	-3C			A					
		E									
		E									

APPROVALS *arrived @ 1030 9/18/86*

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
<i>Earl J. Cox by JH</i>	<i>Joe A. Vigil</i>	

13. Date Disposed M M D D Y Y 0 9 1 8 8 6	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 12T 9 C	15. Shaft Surface Dose mr/hr
--	---	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received KC	Logbook KC	Computer G.E.	Verified D
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) <i>Keith Carter</i>	Date 9/18/86	Date 9/18/86	Date 9/1	Date 03
Form Number HSE-10-2A (3/86)				

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3472

Waste Management
LA-6099-MS-7082

2. Date

M M D D Y Y

09/19/86

3. Retrieval Serial Number

001192

4. Origin of Waste

Group TA Building Wing Room
HSE-7 21

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
4	1

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
6.4 T	

11. Additional Description of Packaging and Packaging Materials

Area TRSWD S762080

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
Pu 238	200.60	E	-2M		E	A		
Pu 239	8.700	E	+0M		E	A		
Am 241	1.6400	E	+0M		E	A		
MFP	8.700	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

13. Date Disposed

M M D D Y Y
09/19/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	9T1109		C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number HS-10-2A (3/88)

Received	Logbook	Computer	Verified
AC	AC	22	DP
Date	Date	Date	Date
9-19-86	9-19-86	10/1	10/2

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3473

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

09/19/86

3. Retrievable Serial Number

001193

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A716

6. Waste Description

TRU cement paste OLD CMP TO TA-64

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
4	1

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RESWA S762081

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	240.6	0	E-2M		E	A		
PU 239	8.7	0.0	E+0M		E	A		
AM 241	6.4	0.0	E+0M		E	A		
MF P	8.7	0.0	E-3C		E	A		
					E			
					E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe R. Viril

Additional Signatures (Optional)

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Earl J. Cox by JM

Signature certifies that waste package or shipment is safe to handle and transport.

Joe R. Viril

13. Date Disposed

M M D D Y Y

09/19/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	11T	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

EC

Logbook

MC

Computer

(2) J

Verified

DD

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date

9/19/86

Date

9/19/86

Date

10/1

Date

10/3

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3474		2. Date M M D D Y Y 09/19/86		3. Retrievable Serial Number 001194		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	-------------------------	--

6. Waste Description TRU Cement paste OLD CMP TO TR 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8	m ³	4	1

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSWD S762082									
6.9	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	240.6	0	E	-12M		A					
PU 239	847	00	E	+10M		A					
AA 241	144	00	E	+10M		A					
MF P	847	00	E	-13C		A					
			E								
			E								

Waste Generator (Print Name Here) Earl J. Cox		APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional) 0950 9/19/86	
Signature certifies that waste package of volume and weight is correct and all applicable disposal requirements are met.		Signature certifies that waste package of volume and weight is correct and all applicable disposal requirements are met.			
Earl J. Cox		Joe A. Vigil			

13. Date Disposed M M D D Y Y 09/19/86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. 5 29 11T129 C						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC Date 9/19/86		Logbook KP Date 9/19/86		Computer DD Date 9/30		Verified DD Date 10/3	
Signature certifies that waste acceptance criteria and all disposal requirements were met.		Signature Keith Carter							

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3475

HSE-7 Waste Management
Ext. 5095 MS J592

2. Date

M M D D Y Y

09/17/86

3. Retrieval Serial Number

001195

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A74

6. Waste Description

TRU CEMENT PASTE OLD CMP TO TB 54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums	Wooden Crates
No.	Gal	No.	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
2.8	m ³

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
7	1

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
6.3	T

11. Additional Description of Packaging and Packaging Materials

Area T RSWD S762085

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 239	1070	E	1M		E	A		
PU 238	5650	E	-2M		E	A		
AM 241	3400	E	10M		E	A		
MF P	1000	E	-30		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vignif

Additional Signatures (Optional)

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Earl J. Cox by M.

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Joe A. Vignif

13. Date Disposed

M M D D Y Y
09/18/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	112T139		C

15. Shaft Surface

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

DS

Verified

DS

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date

9/18/86

Date

9/18/86

Date

10/1

Date

10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read and follow instructions on back of this form.

1. Form Number

S B 6 3476

Form 3476, Manual Form
Rev. 10/1/86

2. Date

M M D D Y Y
09 17 86

3. Retrievable Serial Number

001196

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU cement + A. Ste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
7	1

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
6.3 T	

11. Additional Description of Packaging and Packaging Materials

Area TRSWD S762086

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
Pu 239	1.070	E	H/M		E	A		
Pu 238	5.650	E	-2M		E	A		
Am 241	3.400	E	H/M		E	A		
MFP	1.000	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Arrived @ 1350 9/18/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/-10/-11 Area Representative (Print Name Here)

Joe A. Vigneri

Additional Signatures (Optional)

Signature of Waste Generator

Earl J. Cox by [Signature]

Signature of Area Representative

Joe A. Vigneri

13. Date Disposed

M M D D Y Y
09 18 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	12T13	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

17.2

Verified

103

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

9/18/86

Date

9/18/86

Date

10/1

Date

10/3

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3478		2. Date M M D D Y Y 09 17 86		3. Retrieval Serial Number 001199		4. Origin of Waste Group TA Building Wing Room HSE-7 21				5. Waste Code 476	
------------------------------	--	------------------------------------	--	---	--	---	--	--	--	-------------------------	--

6. Waste Description TRU Cement Paste OLD CMP TO TO 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Surface (mr/hr)	1 Meter (mr/hr)
					28 m ³	7	1

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 66 T		11. Additional Description of Packaging and Packaging Materials Area 7 RSWD 5762099									
---	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = cubic, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU 239	140 70	E	1 M		E	A					
PU 238	546 50	E	-2 M		E	A					
AM 241	344 00	E	10 M		E	A					
MFP	140 00	E	-3 C		E	A					
		E			E						
		E			E						

Waste Generator (Print Name Here) Earl J. Cox		HSE-7-10-11 A Representative (Print Name Here) Joe H. Vigil		Additional Signatures (Optional) arrived @ 1430 9/18/86	
Earl J. Cox by JM		Joe A. Vigil			

13. Date Disposed M M D D Y Y 09 18 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 11 T 12 9 C						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC		Logbook KC		Computer RD		Verified DD	
Signature certifying that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter		Date 9/18/86		Date 9/18/86		Date 10/1		Date 10/3	

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3479		2. Date M M D D Y Y 0 9 1 7 8 6		3. Retrievable Serial Number 001200		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
6. Waste Description TRU cement paste OLD CMP TO TA-54											
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft ³				8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 2.8 M				9. Package Radiation at Surface (mr/hr) I Meter (mr/hr) 1 0			
10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.8 T				11. Additional Description of Packaging and Packaging Materials Area T RS UD 5762100							
12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU 238	1.070	E	41M	±	E	A					
PU 239	5.650	E	-2M	±	E	A					
Am 241	3.400	E	40M	±	E	A					
MFP	1.000	E	-3C	±	E	A					
		E		±	E						
		E		±	E						
APPROVALS <i>Arrived @ 0950 9/18/86</i>											
Waste Generator (Print Name Here) Earl J. Cox				HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil				Additional Signatures (Optional)			
Earl J. Cox by SM				Joe A. Vigil							
13. Date Disposed M M D D Y Y 0 9 1 1 8 1 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 32 13T149 C						15. Shaft Surface Dose mr/hr			
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER						Received KC Date 9/18/86		Logbook KC Date 9/18/86		Computer P2 Date 10/1	
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter						Date 9/18/86		Date 10/1		Verified 03	
Form Number: HS 10-2A (3/86)											

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

1. Form Number **3480** City of Chicago Department of Public Management
February 1996

2. Date	3. Retrieval Serial Number	4. Origin of Waste					5. Waste Code
M M D D Y Y		Group	TA	Building	Wing	Room	
09 / 19 / 86	001201	4SE-721					A76

6. Waste Description
TAU cement fast c OLD CMPR TO TA-54

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	$\left(\begin{array}{l} M = \text{meter}^3 \\ F = \text{foot}^3 \\ G = \text{gallon} \end{array} \right)$		
		No.	Gal.	No.	Volume-ft ³				

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pounds T = ton)		
6.6 T		Area T P S W D 5762001	

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 239	1070	E	1M	•	E	A					
PU 238	5650	E	12M	•	E	A					
AM 241	3400	E	10M	•	E	A					
NFP	1000	E	3C	•	E	A					
	•	E		•	E						
	•	E		•	E						

Waste Generator (Print Name Here) Earl J. Cox		APPROVALS arrived @ 1020 9/19/86 HSE-10/-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox by <i>[Signature]</i>		Joe A. Vigil	

13. Date Disposed <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>M</td><td>M</td><td>D</td><td>D</td><td>Y</td><td>Y</td> </tr> <tr> <td>0</td><td>9</td><td>1</td><td>9</td><td>8</td><td>6</td> </tr> </table>	M	M	D	D	Y	Y	0	9	1	9	8	6	14. Disposal/Storage Location <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Area</th> <th>Shaft</th> <th>Pit</th> <th>Post(s)</th> <th>Layer</th> <th>Pos</th> </tr> <tr> <td>G</td> <td></td> <td></td> <td>2911T129</td> <td></td> <td>C</td> </tr> </table>	Area	Shaft	Pit	Post(s)	Layer	Pos	G			2911T129		C	15. Shaft Surface Dose <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>mr/hr</th> </tr> <tr> <td></td> </tr> </table>	mr/hr	
M	M	D	D	Y	Y																							
0	9	1	9	8	6																							
Area	Shaft	Pit	Post(s)	Layer	Pos																							
G			2911T129		C																							
mr/hr																												

HSE-7 Waste Management Representative (Print Name Here)					Received	Logbook	Computer	Verified
KEITH CARTER					RC	RC	RC	DD
Signature certifies that waste acceptance criteria and standards presented in this waste manifest are correct.					Date	Date	Date	Date
(Signature) Keith Carter					9/19/86	9/17/86	9/30	10/3
Form Number HS 10-2A (3/86)								

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 875 5

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S 8 6 3481

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date
M M D D Y Y
09/19/86

3. Retrieval
Serial Number
001202

4. Origin of Waste
Group TA Building Wing Room
HSE-721

5. Waste
Code
A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-64

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
4	1

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area 7 RSWD 5762102

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 239	1.070	E	1		E	A		
PU 238	5.650	E	2		E	A		
AM 241	3.400	E	10		E	A		
MF P	1.000	E	3		E	A		
		E			E			
		E			E			

APPROVALS arrived @ 0950 9/19/86

Waste Generator (Print Name Here)

Earl J Cox

HSE-7-10-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by [Signature]

Joe A. Vigil [Signature]

13. Date Disposed

M M D D Y Y
09/19/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		29	10T111	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KE

Logbook

KE

Computer

DP

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number HS 10-2A (3/86)

Date

9/19/86

Date

9/19/86

Date

10/1

Date

10/3

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Waste generator must complete this form before releasing waste to the waste management facility.

Waste Management
Ext. 6090, 1/15/82

1. Form Number
S 8 6 3482

2. Date
M M D D Y Y
09 19 86

3. Retrievable
Serial Number
001203

4. Origin of Waste
Group TA Building Wing Room
HSE-721

5. Waste
Code
A76

6. Waste Description:
TRU Cement Paste OLD CMP TO TA 54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 0

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.5 T

11. Additional Description of Packaging and Packaging Materials
Area T 12540 5762103

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 239	1.070	E	H/M		E	A		
PU 238	5.650	E	-2M		E	A		
Am 241	3.400	E	H/M		E	A		
MFP	1.000	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Arrived @ 1020 9/19/86

Waste Generator (Print Name Here): Earl J. Cox
HSE-11-16-11 Area Representative (Print Name Here): Joe A. Vigil
Additional Signatures (Optional):

13. Date Disposed
M M D D Y Y
09 19 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos
G 29 11T+2 91 C

15. Shaft Surface Done
mr/h

HSE-7 Waste Management Representative (Print Name Here): KEITH CARTER
Received: RC Logbook: KC Computer: RD Verified: DV
Signature certifies that waste acceptance criteria and all disposal requirements were met.
(Signature): Keith Carter
Date: 9/19/86 Date: 9/19/86 Date: 9/20 Date: 10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

HSE-7 Waste Management
Ext. 6095, MS. 1592

1. Form Number
S 8 6 3483

2. Date
M M D D Y Y
09 17 86

3. Retrievable
Serial Number
001207

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A176

6. Waste Description

TRU cement paste OCD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
28 M³

9. Package Radiation at
Surface (mr/hr) 120
1 Meter (mr/hr) 2

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
64 T

11. Additional Description of Packaging and Packaging Materials
Area T ASK 10 5762513

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account	Project Code
A-241	2.600	E	10A	±	E	A		
P-238	4.600	E	3A	±	E	A		
P-239	1.150	E	10A	±	E	A		
MFP	7.000	E	3C	±	E	A		
U-235	6.210	E	12M	±	E	A		
U-238	1.510	E	12M	±	E	A		

Waste Generator (Print Name Here) For I. J. Cox
HSE-7 Waste Management Representative (Print Name Here) J. A. Vigil
Additional Signatures (Optional) 1230 9/18/86

13. Date Disposed
M M D D Y Y
09 18 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 12T 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter
Received KC Date 9/18/86
Logbook HC Date 9/18/86
Computer CR Date 10/11/86
Verified DR Date 10/11/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S B S 3484		2. Date M M D D Y Y 09/17/86		3. Retrievable Serial Number 001205		4. Origin of Waste Group TA Building Wing Room 45E-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	-------------------------	--

Waste Management
Ext. 6095 MS-0502

6. Waste Description TRU Cement paste OCD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28	M	1	0

10. Gross Weight Amount (K = kilogram P = pound T = ton) 64T		11. Additional Description of Packaging and Packaging Materials Area 7 ASWD 5762515									
--	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code	
Am 241	2.600	E	ADM		E	A			
MFP	7.000	E	FC		E	A			
Pu 238	6.600	E	2M		E	A			
Pu 239	6.150	E	ADM		E	A			
U 235	6.210	E	2M		E	A			
U 238	1.310	E	2M		F	A			

Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Viej		Additional Signature (Optional)	
Signature of Waste Generator Earl J. Cox		Signature of Area Representative Joe A. Viej			

13. Date Disposed M M D D Y Y 09/18/86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 32 12T13 9 C						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer 82	Verified DD
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) Keith Carter		Date 9/18/86	Date 9/18/86	Date 10/1	Date 10/3

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S B 6 3485

2. Date
M M D D Y Y
09 19 86

3. Retrieval
Serial Number
001204

4. Origin of Waste
Group TA Building Wing Room
H5G-721

5. Waste
Code
A76

6. Waste Description
TRU cement waste OLD CMP TO TA 54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
298 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
66T

11. Additional Description of Packaging and Packaging Materials
Area T ASWD 57625V6

12. Radionuclide Content										Sub Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU238	64600	E	-3M		E	A					
PU239	64150	E	+10M		E	A					
AM241	24600	E	+10M		E	A					
MFP	71000	E	-4C		E	A					
U235	6210	E	+2M		E	A					
U238	1310	E	+2M		E	A					

Waste Generator (Print Name Here) Earl J. Cox
Signature (Print Name Here) Joe A. Vigil
Signature (Print Name Here) Earl J. Cox
Signature (Print Name Here) Joe A. Vigil
APPROVALS James D. 1020 9/19/86
Signature (Print Name Here) Joe A. Vigil
Signature (Print Name Here) Joe A. Vigil

13. Date
Disposed
M M D D Y Y
09 19 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 10T11 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER
Signature (Print Name Here) Keith Carter
Received KC Logbook KC Computer KC Verified KC
Date 9/20/86 Date 9/20/86 Date 9/30/86 Date 9/30/86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3486		2. Date M M D D Y Y 09/17/86		3. Retrievable Serial Number 001206		4. Origin of Waste <table border="1"> <tr> <th>Group</th> <th>TA</th> <th>Building</th> <th>Wing</th> <th>Room</th> </tr> <tr> <td>HSE-721</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Group	TA	Building	Wing	Room	HSE-721					5. Waste Code 476	
Group	TA	Building	Wing	Room																	
HSE-721																					

8. Waste Description	
TRU	Cement Paste OLD CMP TO TAB 54

7. Numbers of Waste Packages						8. Gross Volume	9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No Gal.		Wooden Crates No. Volume-ft ³		Amount M = meter ³ F = foot ³ G = gallon	Surface (mr/hr)	1 Meter (mr/hr)
•	•	•	•	•	•		238 m ³	!

10. Gross Weight					
Amount		(K = kilogram P = pound T = ton)			
6.47					

11. Additional Description of Packaging and Packaging Materials																	
Ar ea T RS KD S 7 6 2 5 3 3																	

12. Radionuclide Content										SS Materials Write-Up	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	6.6 0 0	E	-3 M	•	E	A					
PU 239	6.1 5 0	E	+0 A	•	E	A					
AM 241	2.6 0 0	E	+0 M	•	E	A					
MF P	7.0 0 0 0.7 0 0	E	-4 -5 C	•	E	A					
U 235	6.2 1 0	E	+2 M	•	E	A					
U 238	1.3 1 0	E	+2 M	•	E	A					

APPROVALS		
Waste Generator (Print Name Here)	HSE-17-18-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J Cox	Joe A. Vigil	
Signature certifies that waste is in accordance with applicable regulatory requirements.	Signature certifies that waste package or shipment is in proper condition for transport.	
Earl J. Cox by SM.	Joe A. Vigil	

13. Date Disposed M M D D Y Y 09/18/86	14. Disposal/Storage Location <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Area</th> <th style="width: 15%;">Shaft</th> <th style="width: 15%;">Pit</th> <th style="width: 20%;">Post(s)</th> <th style="width: 15%;">Layer</th> <th style="width: 10%;">Pos.</th> </tr> </thead> <tbody> <tr> <td style="height: 40px; vertical-align: middle;">G</td> <td></td> <td style="text-align: center;">29 312</td> <td style="text-align: center;">113T</td> <td style="text-align: center;">4</td> <td style="text-align: center;">C</td> </tr> </tbody> </table>	Area	Shaft	Pit	Post(s)	Layer	Pos.	G		29 312	113T	4	C	15. Shaft Surface Desc mt/hr
Area	Shaft	Pit	Post(s)	Layer	Pos.									
G		29 312	113T	4	C									

HSE-7 Waste Management Representative (Print Name Here): KEITH CARTER		Received AKC	Logbook KC	Computer JD	Verified DR
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter		Date 9/1/06	Date 9/18/06	Date 10/1	Date 10/13

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number
S 8 6 3487

HSE-7 Waste Management
Ext 6095, MS J592

2. Date
M M D D Y Y
09 11 86

3. Retrievable
Serial Number
001210

4. Origin of Waste
Group: HSE-7 TA: 21 Building: Wing: Room:

5. Waste
Code
A176

6. Waste Description

TRU Cement Paste OLD CMP TO TR-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2	0

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T R 540 S 770912

12. Radionuclide Content

Nuclide	Amount	±	K = curie (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	1.218	-2				A		
PU 239	4.39	-2				A		
AN 241	3.569	-2				A		
MEP	6.000	-2				A		
		E						
		E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	Waste Receiver (Print Name Here) Joe A. Vigil	Waste Management Representative (Signature) Joe A. Vigil
Signature certifies that waste is in compliance with applicable regulations and is safe to handle and transport.	Signature certifies that waste package or shipment is safe to handle and transport.	

13. Date Disposed

M M D D Y Y
09 11 86

14. Disposal Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G			39/10T/11	110	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

Signature certifies that waste acceptance criteria and all disposal requirements were met
Signature: [Signature]

Received

AC
Date: 9-19-86

Logbook

AC
Date: 9-19-86

Transfer

Q25
Date: 10/4

Storage

10/4

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S 8 6 3488

HSE-7 Waste Management
Ext. 6095 MC 1592

2. Date
M M D D Y Y
09 11 86

3. Retrievable
Serial Number
001209

4. Origin of Waste
Group TA Building Wing Room
HSE-724

5. Waste
Code
A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
7	1

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T R54P S770913

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount		Amount Determined By: A = analysis M = measurement E = estimate	SS Materials Write-Off	
							Account	Project Code
Pu239	4.298	-2			E	A		
Pu238	2.278	E			E	A		
Am241	2.112	E			E	A		
NFP	6000	E			E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox by SM

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Arrived @ 1350 9/18/86

Additional Signatures (Optional)

Signature certifies that waste is in accordance with all applicable disposal requirements.

Earl J. Cox by SM

Signature certifies that waste package or shipment is safe to handle and transport.

Joe A. Vigil

13. Date Disposed

M M D D Y Y
09 18 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		29	12T	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

RJ

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Signature: Keith Carter

Date:

9/18/86

Date:

9/18/86

Date:

10/1

Date:

10/3

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number

S 8 6 3489

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y
09/17/86

3. Retrievable

Serial Number

001208

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TB-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meters ³ F = feet ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
12	2

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSWD S770914

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU238	2.186	-2				A		
PU239	4.29	-2				A		
AA241	6.000	-4				A		
MFP	6.000	-4				A		

APPROVALS arrived @ 1030 9/18/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-17-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste is in accordance with all applicable disposal requirements

Earl J. Cox by J.M.

Signature certifies that waste package or shipment is safe to handle and transport

Joe A. Vigil

13. Date Disposed

M M D D Y Y
09/18/86

14. Disposal/Storage Location

Area	Shelf	Pit	Post(s)	Layer	Pos.
G		32	12T/13	19	C

15. Shaft Surface Area

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Generator

ED

Verified

DR

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature) Keith Carter

Date

9/2/86

Date

9/2/86

Date

9/2/86

Date

9/2/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read and fill in this record book and file before disposing of this form.

1. Form Number S E 3490		2. Date M M D D Y Y 09 19 86		3. Retrievable Serial Number 00 12 11		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code 4 7 6			
6. Waste Description TRU Cement Plastic OLD CMP TO TA-54													
7. Numbers of Waste Packages Plastic Sags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³						8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 M ³			9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 2 0				
10. Gross Weight Amount (K = kilogram P = pound T = ton) 65T			11. Additional Description of Packaging and Packaging Materials Area TRSWD 5770934										
12. Radionuclide Content												SS Materials Write-Off	
Nuclide		Amount		±	(C = curie N = nmm)	Error on Amount		±	Amount Determined By (A = analysis M = measurement E = estimate)		Account	Project Code	
PU238		1.750		E	-3A	♦		E	A				
PU239		2.900		E	+0A	♦		E	A				
Am241		1.990		E	+1A	♦		E	A				
NPP		1.870		E	-2C	♦		E	A				
				E		♦		E					
				E		♦		E					
APPROVALS													
Waste Generator (Print Name Here) Earl J. Cox				HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil				Additional Signatures (Optional)					
Signature of Waste Generator Earl J. Cox by EJM				Signature of Area Representative Joe A. Vigil									
13. Date Disposed M M D D Y Y 9 19 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. A 219 11T 110C						15. Shaft Surface Dose mr/hr ♦					
HSE-7 Waste Management Representative (Print Name Here) Andrew C. Thomas						Received AC Date 9-19-86		Logbook AC Date 9-19-86		Computer QD Date 10/1		Verified DP Date 10/3	
Signature certifies that waste acceptance criteria and all disposal requirements were met.													

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3491

HSE-7 Waste Management
Ext 6095, MS J592

2. Date

M M D D Y Y

09/12/86

3. Retrievable

Serial Number

09/12/12

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-724

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums

No.

Gal.

Wooden Crates

No.

Volume-ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

128 m³

9. Package Radiation $\leq$

Surface (mr/hr)

1 Meter (mr/hr)

12

3

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

6.5T

11. Additional Description of Packaging and Packaging Materials

Area T ASWD 5770935

12. Radionuclide Content

Nuclide	Amount	$\pm$	(C = curie M = gram)	Error on Amount	$\pm$	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU238	1.750	E	-3M		E	A		
PU239	2.900	E	A0A		E	A		
AM241	1.980	E	A1M		E	A		
MF235	1.870	E	-2C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10-11 Area Representative (Print Name Here)

Joe A. Vigil

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Earl J. Cox by JEM

Joe A. Vigil

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Signature (Captain)

12. Date Disposed

M M D D Y Y

09/12/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	14 T	19 C	

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SANCHEZ

Received

EL

Logbook

ES

Computer

ES

Verified

ES

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Date

9-12-86

Date

9-12-86

Date

9-12-86

Date

9-12-86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3492

2. Date

M M D D Y Y

09 11 86

3. Retrievable

Serial Number

001213

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-7 21

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Number of Waste Packages

Plastic Bags

Card Board Boxes

Drums

No

Gal

Wooden Crates

No

Volume-ft³

8. Gross Volume

Amount

(M = meter³
F = foot³
G = gallon)

28 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

12

3

10. Gross Weight

Amount

(K = kilogram
P = pound
T = ton)

65T

11. Additional Description of Packaging and Packaging Materials

Area T RSKW 5770936

12. Radionuclide Content

Nuclide	Amount			(C = curie M = gram)	Error on Amount			Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
									Account	Project Code
PU 238	1	7	5	0	E	-3	M	A		
PU 239	2	9	0	0	E	+0	M	A		
AM 241	1	9	9	0	E	+1	M	A		
NFP	1	8	7	0	E	-2	C	A		
					E					
					E					

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature of Waste Generator

Earl J. Cox

Joe A. Vigil

13. Date Disposed

M M D D Y Y

09 11 86

14. Disposal/Storage Location

Area

Shaft

Pit

Post(s)

Layer

Pos

G

29

15T

9

C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

22

Verified

22

Signature certifies that waste acceptance criteria and all disposal requirements were met

Signature

Keith Carter

Date

9/11/86

Date

9/11/86

Date

9/22/86

Date

9/22/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

Waste Generator (Print Name Here) _____

Waste Management
MS-7095, MS-7096

1. Form Number

S 8 6 3493

2. Date

M M D D Y Y

09/11/86

3. Retrievable

Serial Number

001214

4. Origin of Waste

Group

TA

Building

Wing

Room

HLSE-721

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

No.

Gal.

No.

Volume: ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

2.8 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

120

30

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

6.5 T

11. Additional Description of Packaging and Packaging Materials

Area T ASWD 5770937

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1.750	E	-3A		E	A		
PU 239	2.900	E	+0M		E	A		
Am 241	1.990	E	+1M		E	A		
Am 241	1.870	E	-2C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date

Disposed

M M D D Y Y
09/11/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		219	14T15	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

DD

Verified

D.P.

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Keith Carter

Date

9/11/86

Date

9/11/86

Date

9/22/86

Date

9/22/86

Form Number MS-7095

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3494		2. Date M M D D Y Y 08 28 86		3. Retrievable Serial Number 001257		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76	
-------------------------------------	--	---	--	--	--	---	--	--	--	--	--------------------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m³		20	6

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RESWD 5771048									
64T											

12. Radionuclide Content										SS Materials Write Off	
Nuclide	Amount	±	(C = cubic gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	4500	E	-1C		E	A					
PU 239	2000	E	-1C		E	A					
Am 241	1600	E	+1C		E	A					
U 235	6000	E	+10M		E	E					
U 238	2000	E	+10M		E	E					
MFP	1620	E	-3C		E	A					

APPROVALS	
Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil
Earl J. Cox by SM	Joe A. Vigil

13. Date Disposed M M D D Y Y 08 28 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 219113E43 10 5					15. Shaft Surface Dose mr/hr	
---	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREA J. CAYAN				Received AC	Logbook AC	Computer RP	Verified XP
Signature <i>[Signature]</i>				Date 8-28-86	Date 8-28-86	Date 9/1/86	Date 9-15-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of form before completing this form.

HSE-7 Waste Management
Rev. 6095, MS J592

1. Form Number

S 8 6 1495

2. Date

M M D D Y Y

082886

3. Retrievable Serial Number

001258

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
30	9

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSKW 5771049

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	4.500	E -1 C			E	A		
PU 239	2.000	E -1 C			E	A		
Am 241	1.600	E +2 C			E	A		
MFP	1.620	E -3 C			E	A		
		E			E			
		E			E			

Waste Generator (Print Name Here)

Earl J. Cox

APPROVALS

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by gm

Joe A. Vigil

13. Date Disposed

M M D D Y Y

082886

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
6		29	14T	7	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ANDREW J. CATANACH

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Form Number HS 10-2A (3/88)

Received

AC

Date

8-28-86

Logbook

AC

Date

8-28-86

Computer

32

Date

8-28-86

Verified

BP

Date

8-28-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3496		2. Date M M D D Y Y 08 28 86		3. Retrieval Serial Number 001259		4. Origin of Waste Group TA Building Wing Room 45E-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	----------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		30	9

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Arck IT Pskud 5771050									
66T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU238	4.500	E	-1C		E	A					
PU239	2.000	E	-1C		E	A					
Am241	1.600	E	+2C		E	A					
NFP	1.620	E	-3C		E	A					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LONNIE L. MARTIN	Additional Signatures (Optional)
Earl J. Cox by JM	Lonnie L. Martin	

13. Date Disposed M M D D Y Y 08 28 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 2914 9 S					15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACHI		Received AC Date 8-28-86	Logbook AC Date 8-28-86	Computer R.D. Date 8-15-86	Verified SP Date 8-15-86
Signature certifies that waste acceptance criteria and all disposal requirements are met.					

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number
S B 6 3497

HSE-7 Waste Management
Ext. 5095, MS J592

2. Date
M M D D Y Y
08 28 86

3. Retrievable
Serial Number
001 254

4. Origin of Waste
Group TA Building Wing Room
HSE-721

5. Waste
Code
76

6. Waste Description

TRU Cement Paste OLD EMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums Wooden Crates
No. Gal. No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
28m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr) 7

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.5T

11. Additional Description of Packaging and Packaging Materials

After 7 ASMD 577V 051

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	4500	E	-1C		E	A		
PU 239	2000	E	-1C		E	A		
AM 241	1600	E	+2C		E	A		
MFP	1620	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here): Earl J. Cox
HSE-7 Waste Management Representative (Print Name Here): Lennie E. Martin
Additional Signatures (Optional):

Earl J. Cox 8/28/86 Lennie E. Martin

13. Date Disposed
M M D D Y Y
08 28 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos
G 219 14T 95

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here): EUGENE C. SALAZAR
Signature certifies that waste acceptance criteria and all disposal requirements were met.
Form Number HSE-10-28 (3/86)

Received	Logbook	Computer	Verified
8/28/86	8/28/86	9/1/86	8/28/86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3498		2. Date M M D D Y Y 08 28 86		3. Retrievable Serial Number 001255		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76	
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6. Waste Description TRU cement paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28		20	6

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area 7 RSWB 5771101									
66T											

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
Pu 238	4500	E	-1C		E	A			
Pu 239	2000	E	-1C		E	A			
Am 241	1600	E	+2C		E	A			
MF1	1620	E	-3C		E	A			
		E			E				
		E			E				

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox		HSE-11-10/11 Area Representative (Print Name Here) LORRIE E. MARTIN		Additional Signatures (Optional)	
Earl J. Cox 4/9M		LORRIE E. MARTIN			

13. Date Disposed M M D D Y Y 07 21 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 2913T112/10S						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CAYANA		Received AC Date 8-28-86		Logbook AC Date 8-28-86		Computer AC Date 8-15-86		Verified AC Date 8-15-86	
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature)									

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3499		HSE-7 Waste Management Ext. 6095, MS J592		
2. Date M M D D Y Y 09 05 86	3. Retrievable Serial Number 001245	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A176

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		23	8

10. Gross Weight Amount (K = kilogram P = pound T = ton) 65T	11. Additional Description of Packaging and Packaging Materials Area 7 RSW 0 5771109
--	---

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code	
PU 238	4.560	E	-2C		E	A			
PU 239	3.610	E	-1C		E	A			
AM 241	1.343	E	+2C		E	A			
U 235	2.000	E	-70M		E	E			
		E			E				
		E			E				

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-9/-11 Area Representative (Print Name Here) Lennie E. Martin	Additional Signatures (Optional)
Earl J. Cox by gmm	Connie S. Martin	

13. Date Disposed M M D D Y Y 09 05 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 C T 79 S	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACH	Received AC Date 9-5-86	Logbook AC Date 9-5-86	Computer KJ Date 9-5-86	Verified KJ Date 9-5-86
Signature certifies that waste acceptance criteria and all disposal requirements were met.				

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S B 6 3500		HSE Waste Management Ext. 6095, MSJ592		
2. Date M M D D Y Y 04 05 86	3. Retrievable Serial Number 001246	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code 476

6. Waste Description TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Surface (mr/hr)	1 Meter (mr/hr)
					28 ft ³	20	7

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 16.5 T	11. Additional Description of Packaging and Packaging Materials Area T RSKWP 5771110
---	---

12. Radionuclide Content						SS Materials Write-Out		
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	6.560	E	-2C		E	A		
PU 239	3.610	E	-1C		E	A		
Am 241	1.343	E	+2C		E	A		
U 235	2.200	E	-1M		E	E		
		E			E			
		E			E			

APPROVALS		
Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LONNIE E MARTIN	Additional Signatures (Optional)
Earl J. Cox	Lonnie E Martin	

13. Date Disposed M M D D Y Y 08 05 86	14. Disposal/Storage Location Bottom 10:30 Area Shaft Pit Post(s) Layer Pos G 29 7T 95	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) G. SALAZAR		Received EL	Logbook 29	Computer 9/2	Verified 9/2
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature)		Date 9-5-86	Date 9-5-86	Date 9/2	Date 9/2

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3501

2. Date

M M D D Y Y

090586

3. Retrievable Serial Number

001247

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
28	M

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
20	7

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
6.1	T

11. Additional Description of Packaging and Packaging Materials

Area TRSWD 5771111

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = millicurie g = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	6.560	E	-2C		E	A		
PU 239	3.610	E	-1C		E	A		
Am 241	1.343	E	+2C		E	A		
U 235	0.206	E	+1M		E	E		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-17-10/-11 Area Representative (Print Name Here)

LONNIE E MARTIN

Additional Signatures (Optional)

Earl J. Cox by JM

Lonnie E Martin

13. Date Disposed

M M D D Y Y
090586

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		27	78		95

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ELIGIENE C. SALAZAR

Received

29

Logbook

29

Computer

10.8

Verified

10.8

Signature (Print Name Here) of waste generator or authorized representative

Signature

Date

9-5-86

Date

9-5-86

Date

9/22

Date

9/22

Form Number HS 10-2A(3/86)

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number		2. Date		3. Retrievable Serial Number		4. Origin of Waste				5. Waste Code	
S 8 6 3502		M M D D Y Y 09 05 86		001248		Group TA Building Wing Room HSE-721				A 76	

6. Waste Description
TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume (ft ³)	Surface (mr/hr)	1 Meter (mr/hr)
					2.8 M ³	25	10

10. Gross Weight	11. Additional Description of Packaging and Packaging Materials
Amount (K = kilogram, P = pound, T = ton) 6.3 T	Area T 8.5 W D 57 T 11 12

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	6.560	E	-2C		E	A		
PU 239	3.610	E	-1C		E	A		
Am 241	1.343	E	-1C		E	A		
U 235	2.000	E	-1M		E	E		
		E			E			
		E			E			

APPROVALS	
Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LONNIE E. MARTIN
Earl J. Cox by JM	Connie E. Martin

13. Date Disposed M M D D Y Y 09 05 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 7T8 95	15. Shaft Surface Dose mr/hr
--	--	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR	Received Date 9-5-86	Logbook Date 9-8-86	Computer Date 9-22-86	Verified Date 9-26-86
(Signature) Eugene C. Salazar				

Form Number HS 10-2A (3/86)

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3503		2. Date M M D D Y Y 08 29 86				3. Retrievable Serial Number 001249				4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code 476	
-------------------------------------	--	---	--	--	--	---	--	--	--	---	--	--	--	-----------------------------	--

6. Waste Description
TRU Cement Asst. OLD CMP TO TP-54

7. Number of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
								20	7

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(P = pound T = kilogram)	Area T 25610 S 771113	
6.5T			

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
PU 238	6.5 6 0	E	-2C		E	A			
PU 239	3.6 1 0	E	-1C		E	A			
Am 241	1.3 4 3	E	10C		E	A			
U 235	2.2 0 0	E	10m		E	E			
		E			E				
		E			E				

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-11/10/11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	

13. Date Disposed 08 29 86	14. Disposal/Storage Location TP 115 Area Shaft Pit Post(s) Layer Pos G 29 15 9 5	15. Shaft Surface Dose mr/hr
--------------------------------------	--	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAS	Received ER	Logbook 21	Computer 12	Verified 51
Signature Eugene C. Salas	Date 8-29-86	Date 8-29-86	Date 8/31/86	Date 9-15-86
Form Number HSE 10-2A (3/86)				

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

Waste Management
Form WMS-1 (Rev. 10-80)

1. Form Number
S B 6 3504

2. Date
M M D D Y Y
0 8 2 8 8 6

3. Retrievable
Serial Number
0 0 1 2 5 2

4. Origin of Waste
Group TA Building Wing Room
HSE-722

5. Waste
Code
A 7 6

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
18	4

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T PSWD S771117

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	2.875	E	-1C		E	A		
PU 239	9.500	E	-2C		E	A		
Am 241	9.320	E	+1C		E	A		
n F P	9.175	E	-4C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J Cox	Louise E. Martin	
Earl J. Cox JR.	Conrad E. Martin	

13. Date Disposed

M M D D Y Y
0 8 2 8 8 6

14. Disposal/Storage Location

Area	Shelf	Pit	Post(s)	Layer	Pos.
G		29	13T	9	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAZAR

Signature certifying that waste disposal conforms and all disposal requirements were met

Form Number HSE-102A (3/85)

Received

8

Date

8/28/86

Logbook

29

Date

8/28/86

Computer

29

Date

8/28/86

Verified

DP

Date

8-28-86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3505		4. Origin of Waste Group TA Building Wing Room HSE-7 21				5. Waste Code A76
2. Date M M D D Y Y 08 28 86		3. Retrieval Serial Number 001253				

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³	Surface (mr/hr)	1 Meter (mr/hr)
					28 m ³	20	7

10. Gross Weight Amount (K - kilogram, P - pound, T - ton) 5.6T	11. Additional Description of Packaging and Packaging Materials Area T RSWD S-77/1/18
---	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C - curie, M - gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code			
PU 238	2.875	E	-1C			A					
PL 239	9.500	E	-2C			A					
AA 241	9.320	E	-1C			A					
AFP	9.175	E	-4C			A					
		E									
		E									

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LORRIE E MARTIN	Additional Signatures (Optional)
Earl J. Cox by gm	Lorrie E Martin	

13. Date Disposed M M D D Y Y 08 28 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 219 13T 95	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) ROBERT C. SALAZAR	Received 6	Logbook 25	Computer R.D.	Verified SP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Lorrie E Martin	Date 8/28/86	Date 8/28/86	Date 9/1/86	Date 9-1586

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Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number
S 8 6 3506

Waste Management
LA 10-10-11

2. Date
M M D D Y Y
0 9 0 5 8 6

3. Retrievable Serial Number
0 0 1 2 5 0

4. Origin of Waste				
Group	TA	Building	Wing	Room
45E-721				

5. Waste Code
A 7 6

6. Waste Description
TRU cement paste OLD CMP TO TA-64

7. Numbers of Waste Packages					
Plastic Bags	Card-Board Boxes	Drums	Wooden Crates		
No	Gal	No	Volume #3		

8. Gross Volume	
Amount	(M = meter ³ F = foot ³ G = gallon)
228 m ³	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)
25	10

10. Gross Weight	
Amount	(K = kilogram P = pound T = ton)
65T	

11. Additional Description of Packaging and Packaging Materials
Area T RFWO 5771119

12. Radionuclide Content							SS Materials Write Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	2.8 75	E	-1C		E	A		
PU 239	9.5 00	E	-2C		E	A		
Am 241	9.3 20	E	+1C		E	A		
NFP	9.1 75	E	-4C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Laurie E. Martin	
Earl J. Cox by JM	Laurie E. Martin	

13. Date Disposed
M M D D Y Y
0 9 0 5 8 6

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	8		95

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
EUGENE C. SALAZAR	EL	29	(R)	8-0
Signature of person that waste acceptance criteria and all disposal requirements were met	Date	Date	Date	Date
(Signature) Eugene C. Salazar	9-5-86	9-5-86	9/12	9/12

Form Number HSE 10-26 (3/86)

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 3 6 3507		2. Date M M D D Y Y 08 29 86				3. Retrievable Serial Number 001251		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	--	--	---	--	--	--	--	--	-------------------------	--

6. Waste Description TRU Cement Paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Number of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 M		20	7

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RS40 5771120									
65T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C M curie gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238 248 75	E-1C					A					
PU 239 9.5 00	E-2C					A					
AM 241 9.3 20	E-1C					A					
MF P 9.1 75	E-4C					A					

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	NELC 17-18-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	

13. Date Disposed M M D D Y Y 08 29 86		14. Disposal/Storage Location TOP 245 Area Shaft Pit Post(s) Layer Pos G 29 115 9 5					15. Shaft Surface Dose mr/hr	
--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAS		Received 8/29/86	Logbook 25	Computer 9/1/86	Verified 9/15/86
Signature certifying that waste acceptance criteria and all disposal requirements were met (Signature) Eugene C. Salas		Date 8-29-86	Date 8-29-86	Date 9/1/86	Date 9-15-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3508

2. Date

M M D D Y Y

08 28 86

3. Retrievable

Serial Number

001256

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste

Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card Board Boxes

Drums No Gal

Wooden Crates No Volume-ft³

8. Gross Volume

Amount

(M = meter³
F = foot³
G = gallon)

2.8 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

20

6

10. Gross Weight

Amount

(K = kilogram
P = pound
T = ton)

6.5 T

11. Additional Description of Packaging and Packaging Materials

Area 7 ASKED 577V 24

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	4.500	E	-1C	+	E	A		
PU 239	2.000	E	-1C	+	E	A		
Am 241	1.000	E	-2C	+	E	A		
MFP	1.020	E	-3C	+	E	A		
		E		+	E			
		E		+	E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Lennie E. Martin	
Earl J. Cox by JM	Lennie E. Martin	

13. Date

Disposed

M M D D Y Y
08 28 86

14. Disposal/Storage Location

Area	Shed	Pit	Post(s)	Layer	Pos
			125-2	10	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ANDREW J. CATANACH

Signature certifies that waste meets acceptance criteria and all disposal requirements were met

Form Number RCS 10-2A (2/86)

Received

AL

Date

8-28-86

Logbook

AC

Date

8-28-86

Computer

DD

Date

8-28-86

Verified

DP

Date

9-15-86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3509		2. Date M M D D Y Y 08 05 86		3. Retrievable Serial Number 001240		4. Origin of Waste Group 45E-72V TA Building Wing Room		5. Waste Code A76	
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6. Waste Description TRU cement paste OLD CMP TO TA-54									
--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8m³		23	8

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials							
Amount	(K = kilogram P = pound T = ton)	Area T RSVD 5771126							
6.6T									

12. Radionuclide Content								SS Materials Write Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
PU238	2.100	-1				A			
PU239	3.200	-1				A			
Am241	1.861	-1				A			
U235	1.700	-1				E			
MFP	1.500	-1				A			
U238	5.400	-1				E			

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LONNIE E. MARTIN	Additional Signatures (Optional)
<i>Earl J. Cox</i>	<i>Lonnie E. Martin</i>	

13. Date Disposed M M D D Y Y 09 05 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 217 OT 105				15. Shaft Surface Dose mr/hr	
---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) ANDREW J. CATANACH		Received 12 Date 9-5-86	Logbook AC Date 9-5-86	Comp AS Date 9/2/86	Verified AS Date 9/2/86
Signature certifies that waste was accepted, container and all contents were in accordance with HSE-7 Waste Management Representative (Print Name Here) <i>Andrew J. Catanach</i>					

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3510		2. Date M M D D Y Y 09 05 86		3. Retrievable Serial Number 001239		4. Origin of Waste Group T A Building Wing Room HSE-7 21				5. Waste Code A76	
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6. Waste Description TRU cement paste OLD CMP TO TA 54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						208	m ³	25	10

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area 7 3540 5771127									
647											

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	2.100	-1				A		
PU 239	3.200	-1				A		
Am 241	1.861	-1				A		
U 235	1.700	-1				E		
MPP	1.500	-3C				A		
U 238	5.400	-1				E		

Waste Generator (Print Name Here) Earl J. Cox		HSE-7/10/11 Area Representative (Print Name Here) LONNIE E MARTIN		Additional Signatures (Optional)	
Earl J. Cox		Lonnice E. Martin			

13. Date Disposed M M D D Y Y 09 05 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 7 95						15. Shaft Surface Dose mr/hr.	
--	--	--	--	--	--	--	--	----------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) MICHAEL C. SALAS		Received Date 9-5-86		Logbook Date 9-5-86		Computer Date 9/22		Verified Date 9/22	
Signature [Signature]		Date 9-5-86		Date 9-5-86		Date 9/22		Date 9/22	
Form Number HS 10-2A (3/88)									

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

SAB 3511

2. Date

M M D D Y Y

09/12/86

3. Retrievable

Serial Number

001236

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card Board Boxes

Drums

No. Gal.

Wooden Crates

No.

Volume

8. Gross Volume

Amount

(M - meter)
(F - foot)
(G - gallon)

2.8 M

9. Package Radiation at

Surface

1 Meter

4

0

10. Gross Weight

Amount

(K - kilogram)
(P - pound)
(T - ton)

64 T

11. Additional Description of Packaging and Packaging Materials

Area T RES WDS 5771129

12. Radionuclide Content

Nuclide	Amount	±	(K - kilogram) (M - gram)	Error on Amount	±	Amount Determined By: (A - analysis) (M - measurement) (E - estimate)	Account	Project Code
PU 238	5.100	-1				A		
PU 238	5.100	-1				A		
Am 241	1.861	E+2				A		
U 235	1.700	E+2				E		
NFP	1.500	E-3				A		
U 238	5.400	E+1				E		

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signature (Optional)

Earl J. Cox

Joe A. Vigil

13. Date

Disposed

M M D D Y Y
09/12/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		219	14T/15	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

KC

Verified

D.P.

Signature certifies that waste acceptance criteria and all other requirements have been met

(Signature)

Keith Carter

Date

9/12/86

Date

9/12/86

Date

9/28/86

Date

9/28/86

Form Number 10-10-86 (2-79)

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number		2. Date		3. Retrieval Serial Number		4. Origin of Waste		5. Waste Code	
S R 6 3512		M M D D Y Y 090586		001241		HSE-721		A76	
6. Waste Description									

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Vol. in cu ft	Surface (mS/hr)	1 Meter (mS/hr)
					2.8 m ³	3.5	3.0
10. Gross Weight				11. Additional Description of Packaging and Packaging Materials			
Amount (K - kilogram, P - pound, T - ton) 6.6T				Area of 2540 5271134			

12. Radionuclide Content							SS Materials Write Off	
Nuclide	Amount	±	(C - cubic, A - gram)	Error on Amount	±	Amount Determined By (A - analysis, M - measurement, E - estimate)	Account	Project Code
PU 238	6560	E-2C			E	A		
PU 239	3610	E-1C			E	A		
Am 241	1343	F-12C			E	A		
U 235	2200	E-10M			E	E		
		E			E			
		E			E			

Waste Generator (Print Name Here)		HSE-7/10/11 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J. Cox		Ronnie E. Martin			
Earl J. Cox by BM		Ronnie E. Martin			

13. Date Disposed	14. Disposal/Storage Location	15. Shaft Surface Dose
M M D D Y Y 090586	Area Shaft Pit Post(s) Layer P E 2105 9 S	mr/hr

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
[Signature]		9-5-86	9-5-86	9/19/86	9/20/86
Signature		Date	Date	Date	Date

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number SR 6 3513		2. Date M M D D Y Y 091286		3. Retrievable Serial Number 001233		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------------	--	---	--	--	--	---	--	--	--	--------------------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums No	Gal	Wooden Crates No	Volume ft ³	Amount	(F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 m³		15	5

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSWD S771136									
68 T											

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(G = curies M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code	
PU 238	4.700	-2				A			
PU 239	0.047	E				A			
PU 239	0.200	E				A			
Am 241	8.630	E				A			
NFP	0.300	E				A			

Waste Generator (Print Name Here)		HSE-7/-10/-11 Area Representative (Print Name Here)		Additional Signatures (Optional)	
Earl J Cox		JENNIE MARTIN			
Earl J. Cox by JM		Rennie W...			

13. Date Disposed		14. Disposal/Storage Location						15. Shaft Surface Dose	
M M D D Y Y		Area	Shaft	Pit	Post(s)	Layer	Pos	mr/hr	
091286		G		24	13T14	1	C		

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
KEITH CARTER		RC	RC	RC	D-O
(Signature) Keith Carter		Date	Date	Date	Date
		9/12/86	9/12/86	9/22	9/22/86

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Los Alamos, New Mexico 87545

Ext. 6095, MS 5592

1. Form Number		2. Date		3. Retrievable Serial Number		4. Origin of Waste				5. Waste Code	
S	86	3514	M	M	D	D	Y	Y	09	12	86
			00		12	31	HSE-721				A76

6. Waste Description
TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
		No.	Gal.	No.	Volume-ft ³				
•	•	•	•	•	•	2.8 m ³		12	3

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pound T = ton)		
643	T	Area T 25 kld 5771138	

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
	4.700	-2									
PU 238	0.047	E	10 C	•	E	A					
PU 239	0.200	E	10 C	•	E	A					
AA 241	8.630	E	10C	•	E	A					
MFP	0.500	E	3 C	•	E	A					
	•	E		•	E						
	•	E		•	E						

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by gmm	Joe A. Vigil	

13. Date Disposed							14. Disposal/Storage Location <i>Bottom</i> <i>Tw. 2 St.</i>							15. Shaft Surface Desc		
M	M	D	D	Y	Y	Area	Shaft	Pit	Post(s)	Layer	Pos.	mr/hr				
0	9	1	2	8	6	G		29	15	9	C					

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALTZMAN	Received EA	Logbook 21	Computer Q2	Verified W.B.
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) <i>Eugene Saltzman</i>	Date 9-12-88	Date 9-12-88	Date 9/22/88	Date 9/22/88
Form Number HSE-70-20 (3/88)				

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3515

2. Date

M M D D Y Y

0 9 / 1 1 / 8 6

3. Retrievable

Serial Number

0 0 / 1 2 3 2

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A-76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
2.8 m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2.6	8

10. Gross Weight

Amount	K = kilogram P = pound T = ton
644 T	

11. Additional Description of Packaging and Packaging Materials

Area T 25410 S 771140

12. Radionuclide Content

SS Materials Write-On

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	4.700	-2				A		
PU 239	3.000	-10				A		
Am 241	3.630	-4				A		
MFP	3.000	-3				A		

APPROVALS

Waste Generator (Print Name Here)	HSE-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J Cox	Louise E. MARTIN	
Earl J. Cox by JM	Louise E. Martin	

13. Date

Disposed

M M D D Y Y
0 9 / 1 1 / 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		295	T	9	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Keith Carter

Form Number HSE 10-2A (2/90)

Received

HC

Date

9/11/86

Logbook

HC

Date

9/11/86

Computer

DP

Date

9/22/86

Verified

DP

Date

9/22/86

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

HSE-7 Waste Management
Rev. 6095 MS 0592

1. Form Number
S 8 6 3516

2. Date
M M D D Y Y
08 29 86

3. Retrievable
Serial Number
001234

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A76

6. Waste Description
TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Carboard Boxes Drums No Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (m³ = meter³, ft³ = foot³, G = gallon)
2.8 m³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)
20 7

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.3 T

11. Additional Description of Packaging and Packaging Materials
Area TRU WOOD S771141

12. Radionuclide Content						SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account Project Code
PU 238	2.100	-1				A	
PU 239	4.400					A	
AM 241	9.675					A	
U 235	4.010					A	
U 238	1.710					A	
AFP	0.175					A	

APPROVALS

Waste Generator (Print Name Here) *Earl J. Cady*
HSE-1/-10/-11 Area Representative (Print Name Here) *Joe A. Vigil*
Additional Signatures (Optional)

13. Date Disposed
M M D D Y Y
08 29 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 217 15T 19S

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) *EUGENE C. ...*
Signature certifies that waste acceptance criteria and all disposal requirements were met
(Signature) *Eugene C. ...*
Form Number HSE-7-2A (Rev. 8/85)

Received	Logbook	Computer	Verified
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Date	Date	Date	Date
8-29-86	8-29-86	9-10-86	9-10-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3517

2. Date

M M D D Y Y

082886

3. Retrievable

Serial Number

001235

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement paste, OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
2.8m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
18	4

10. Gross Weight

Amount	K = kilogram P = pound T = ton
54T	

11. Additional Description of Packaging and Packaging Materials

Area T ASWD 5771142

12. Radionuclide Content

Nuclide	Amount	±	Unit (C = cubic M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU239	4.400	-1				A		
PU238	2.690	-1				A		
AM241	9.675	-1				A		
U235	4.010	-1				A		
U238	1.710	-1				A		
AFP	6.750	-1				A		

APPROVALS

Waste Generator (Print Name Here)	HSE-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Lonnie E. Martin	
Earl J. Cox	Lonnie E. Martin	

13. Date

Disposed

M M D D Y Y
082886

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
C		29	12T	9	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SANCHEZ

Received

ED

Logbook

29

Computer

29

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Eugene C. Sanchez

Date

8/28/86

Date

8/28/86

Date

7/2/86

Date

9-1586

Form Number HSE-70-002 (3/85)

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions and fill in carefully before completing this form.

1. Form Number S 8 6 3518		HSE-7 Waste Management Ext. 6095, MSJ592		
2. Date M M D D Y Y 09 11 86	3. Retrievable Serial Number 001237	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A76

6. Waste Description TRU cement paste OLD CMP TO TA-54
--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Surface (mr/hr)	1 Meter (mr/hr)
						2.6	8

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 6.5 T	11. Additional Description of Packaging and Packaging Materials Area T RES W D S771143
---	--

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU239	4400	-1				A		
PU238	2100	-1				A		
AM241	9475	-1				A		
U235	4010	-1				A		
U238	1710	-1				A		
MFP	6750	-1				A		

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-17-10/-11 Area Representative (Print Name Here) LONNIE E MARTIN	Additional Signatures (Optional)
<i>Earl J. Cox</i>	<i>Lonnie E. Martin</i>	

13. Date Disposed M M D D Y Y 09 11 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 295 T6 9 5	15. Shaft Surface Dose mr/hr
---	---	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received KC	Logbook KC	Computer P.D.	Verified D.B.
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) <i>Keith Carter</i>	Date 9/11/86	Date 9/11/86	Date 9/12/86	Date 9/12/86
Form Number HSE-10-2A (3/85)				

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 8519

Waste Management
Form WMS-100

2. Date

M M D D Y Y

0 9 0 5 8 6

3. Retrievable

Serial Number

0 0 1 2 3 8

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A 7 6

6. Waste Description

TRU cement waste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums

No

Gal

Wooden Crates

No

Volume-ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

28 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

20

7

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

65T

11. Additional Description of Packaging and Packaging Materials

Area TRSWD 5771144

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 239	4.400	-1				A		
PU 238	2.100	-1				A		
Am 241	9.675	-1				A		
U 235	4.010	-1				A		
U 238	1.710	-1				A		
NFP	6.750	-1				A		

APPROVALS

Waste Generator (Print Name Here)

Earl J Cox

HSE-17-18/11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J Cox by JM

Joe A. Vigil

13. Date

Disposed

M M D D Y Y
0 9 0 5 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	78		95

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C.

Received

14

Logbook

29

Computer

22

Verified

29

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Eugene C.

Date

9-5-86

Date

9-5-86

Date

9/22

Date

9/29

Form WMS-100 (Rev. 12/85)

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This form is to be used for the disposal of radioactive solid waste. It is not to be used for liquid waste.

1. Form Number S 8 6 3520		2. Date M M D D Y Y 09 05 86		3. Retrievable Serial Number 0101242		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	----------------------	--

6. Waste Description TRU Cement Paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28	M ³	35	13

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T ASWD 5771147									
65	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU238	65	60	E	-25		A					
PU239	3.6	1.0	E	-1C		A					
Am241	1.3	43	E	+2C		A					
U235	2.0	0.0	E	-10M		E					
			E								
			E								

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox by gmt	Joe A. Vigil	

13. Date Disposed M M D D Y Y 09 05 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos 6A 219 016T 9L S						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) D. J. [Signature]		Received AC	Logbook AC	Computer D. J.	Verified D. J.
Signature certifies that waste acceptance criteria and all disposal requirements were met. [Signature]		Date 9-5-86	Date 9-5-86	Date 9/5/86	Date 9/5/86
Form Number: 10-2A (3/86)					

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3521

2. Date

M M D D Y Y

090586

3. Retrievable

Serial Number

001243

4. Origin of Waste

Group YA Building Wing Room

HSE-7 21

5. Waste Code

A 7 6

6. Waste Description

TRU cement paste OLD CMP TO TB-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
2.3	3

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
2.3	8

10. Gross Weight

Amount	K = kilogram P = pound T = ton
64T	

11. Additional Description of Packaging and Packaging Materials

Area T RSWD 5771148

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By A = analysis M = measurement E = estimate	SS Materials Write-Off	
							Account	Project Code
Pu 238	6.5	0.0	E-2C		E	A		
Pu 239	3.6	1.0	E-1C		E	A		
Am 241	1.3	4.3	E-2C		E	A		
U 235	2.0	0.0	E-1C		E	E		
			E		E			
			E		E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Jos A. Vigil

Additional Signatures (Optional)

Earl J. Cox

Jos A. Vigil

13. Date

Disposed

M M D D Y Y
090586

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
9			296	7	105

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ANDREW J. CATANACH

Signature certifies that waste acceptance criteria and all disposal requirements were met

Received

AC

Date

9-5-86

Logbook

AC

Date

9-5-86

Computer

9-5-86

Date

9-5-86

Verified

W-9

Date

9-5-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

Any person who generates radioactive waste must complete and submit this form.

HSE-1 Waste Management
Ext. 5045, 5050, 5042

1. Form Number

S 8 6 3522

2. Date

M M D D Y Y
09 05 86

3. Retrievable

Serial Number

001244

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-7	21			

5. Waste Code

A7.6

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
35	13

10. Gross Weight

Amount	K = kilogram L = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSWD 5771149

12. Radioisotope Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	6.560	E	-2C		E	A		
PU 239	3.610	E	-1C		E	A		
Am 241	1.343	E	-2C		E	A		
U 235	0.200	E	-1C		E	E		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by gm	Joe A. Vigil	

13. Date Disposed

M M D D Y Y
09 05 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
E7		219	516	91	S

15. Shaft Surface Dose

mr/hr

HSE-1 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
Earl J. Cox	AC	AC	QR	DS
Signature (Print Name Here)	Date	Date	Date	Date
Earl J. Cox	9-5-86	9-5-86	7/1/86	9/1/86

Form HSE-10-1A (3/86)

DRUM RETRIEVAL DATA FORM

ORIGINAL DATA (from TRU Waste Database)

DRUM NO.	LABEL NO.	DRUM SIZE (m3)	CONTENT DESCRIPTION	WEIGHT (lbs)	SURFACE DOSE RATE (mrem/hr)	POSSIBLE H2 > LFL (Y/N)
001244	S863522	2.80	Waste cd: 76, tru cement paste old cmp to ta-54 area t rswd s771149	13802.2	35.0	N

NEW DATA (complete during retrieval)

RETRIEVAL DATE (m/d/y)	SURFACE DOSE RATE (mrem/hr)	DRUM CONDITION	COMMENTS
		GOOD	This drum is to be vented and placed into storage. Apply one barcode label to drum
		SUSPECT "O"	This drum is to be vented, overpacked, and placed into storage. Mark top of drum with an "O" for overpack. Apply one barcode label to drum
		SUSPECT "S"	This drum is to be vented and placed into storage. Mark top of drum with a "S" for suspect with no overpack. Apply one barcode label to drum
		DENTS	Description:
		RUST	Description:
		PITTING CORROSION	Description:
		DAMAGED (breached)	This drum is to be overpacked or repacked, and placed into storage.
		OVERPACK	Overpack container size:
		REPACK	Repack container size:

Drum Manufacturing
or Purchasing Data:

Signature:

Date:

DATE 1/8/98

TIME 2:48:20 PM

OPERATOR Dino Martinez

DRUM ID 01244

RSWD

DRUM CONDITION Good - no significant wear and/or damage.

SUSPECTED HIGH %H2 NO

DRUM WEIGHT 395

%H2 IN DRUM 0.00

FINAL EVAC. PRES. 13.03

DRUM PRESSURE 20.70

EVAC OVERRIDE? YES

The fields below need to be updated for each drum.

VENT SERIAL # 828

DRUM BURN? NO

LID CONTAMINATION? NO

VENT THREADS STRIPPED? NO

WEF No.
97-004

Completed by Waste Generator

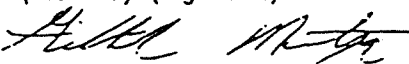
☒ On-going ☐ One-time	WPF No. Multiple	CWDR/TWSR No. Multiple	Item Nos. Multiple
☐ Hazardous/Chemical ☐ Low-Level Mixed Waste	☐ Low-Level Waste ☐ Radioactive Liquid Waste	☒ Transuranic Waste ☐ Other _____	

Waste Acceptance Criteria

Section 4.1.2 Venting. The WAC states that "All TRU waste containers must be vented using carbon-composite filters."

Reason for Variance from WAC and Justification

Scintered metal filters instead of carbon-composite filters are being installed on TWISP drums. This is due to the fact that ~5000 metal filters were purchased 2+ years ago based on guidance from characterization and certification personnel.

Requested by: (Print) Gilbert Montoya	Requested by: (Signature) 	Z Number 097369	Date 6/16/97
--	--	--------------------	-----------------

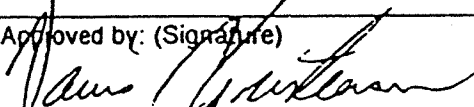
Waste Management Facility Approval

Special Instructions and Comments

~~A list of drums with scintered metal filters will be provided to the Information Management team weekly. The IM team will attach the list to this form.~~ 6/16/97 DVC - GMM

EM-SWO will work with CST-7 to determine when and how these filters will be replaced with carbon-composite filters prior to shipment of the drums to WIPP. If EM-SWO is required to replace the filters, the process and tracking of the appropriate paperwork will be documented in a formal procedure. GMM,

A copy of this WE will be placed with each affected data package. DVC 6/16/97

☒ Approved ☐ Rejected	Approved by: (Signature) 	Z Number 113199	Date 6/16/97
--	---	--------------------	-----------------

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6

3523

2. Date

M M D D Y Y

09 12 86

3. Retrieval

Serial Number

001225

4. Origin of Waste

Group

YA

Building

Wing

Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement waste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums

No

Gal

Wooden Crates

No

Volume-ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

28m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

4

0

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

64T

11. Additional Description of Packaging and Packaging Materials

Area T ASWD S771152

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1.740	E	-1C	♦	E	A		
PU 239	3.000	E	-1C	♦	E	A		
U 235	2.685	E	-1M	♦	E	E		
Am 241	7.200	E	-1C	♦	E	A		
MF P	1.350	E	-3C	♦	E	A		
U 238	1.035	E	-12M	♦	E	E		

APPROVALS

Arrived @ 1040 9/12/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by JM

Joe A. Vigil

13. Date

Disposed

M M D D Y Y
09 12 86

14. Disposal/Storage Location

Area

Shaft

Pit

Post(s)

Layer

Pos

G

29

14

T

15

9

C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

22

Verified

22

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

9/12/86

Date

9/12/86

Date

9/12/86

Date

9/12/86

Form Number HSE-10-12 (3/86)

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3524		2. Date M M D D Y Y 09/12/86				3. Retrieval Serial Number 001226		4. Origin of Waste Group TA Building Wing Room 455-721				5. Waste Code A 76	
6. Waste Description TRU cement paste OLD CMP TO TA 54													
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft ³						8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 M ³				9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 4 D			
10. Gross Weight Amount (K = kilogram P = pound T = ton) 65T						11. Additional Description of Packaging and Packaging Materials ARCAT RESUO S771153							
12. Radionuclide Content													
Nuclide		Amount		±	(C = curie M = gram)	Error on Amount		±	Amount Determined By (A = analysis M = measurement E = estimate)		SS Materials Write-Off Account Project Code		
PU 238		1.740		E	-1C	♦		E	A				
PU 239		3.000		E	-1C	♦		E	A				
U 235		2.685		E	+12M	♦		E	E				
Am 241		7.200		E	+1C	♦		E	A				
MF 7		1.350		E	-3C	♦		E	A				
U 238		1.035		E	+12M	♦		E	E				
APPROVALS Waste Generator (Print Name Here) Earl J. Cox HSE-17/18/11 Area Representative (Print Name Here) Joe A. Vigil Signature: Earl J. Cox by JM Date: 9/12/86 Signature: Joe A. Vigil Date: 9/12/86													
13. Date Disposed M M D D Y Y 09/12/86				14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 14T15 9 C						15. Shaft Surface Dose mr/hr			
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER Signature: Keith Carter						Received KC Date: 9/12/86		Logbook KC Date: 9/12/86		Computer Date: 9/12/86		Verified Date: 9/12/86	

Form Number HS 10-20 (3/86)

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number		S 8 6 3525	
2. Date	3. Retrieval Serial Number	4. Origin of Waste	
M M D D Y Y		Group	TA Building Wing Room
09/11/86	001227	HSE-721	
		5. Waste Code	
		A76	

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums	Wooden Crates	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
		No	Gal				
				2.8 m ³		10	2

10. Gross Weight	11. Additional Description of Packaging and Packaging Materials
Amount (K = kilogram P = pound T = ton)	
6.5 T	Area T RSWO 5771154

12. Radionuclide Content							SS Materials Write Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1.740	E	-1C			A		
PU 239	3.000	E	-1C			A		
U 235	2.685	E	+2M			E		
AM 241	7.200	E	+1C			A		
MF	1.350	E	-3C			A		
U 238	1.035	E	+2M			E		

APPROVALS

approved 9/10/86

Waste Generator (Print Name Here)	HSE-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date Disposed	14. Disposal/Storage Location	15. Shaft Surface Dose
M M D D Y Y	Area Shaft Pit Post(s) Layer Pos	mr/hr
9/11/86	6 219 5 T6 9 S	

HSE-7 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
KEITH CARTER	KC	KC	RD	DD
Signature	Date	Date	Date	Date
Keith Carter	9/11/86	7/11/86	9/22	9/29/86

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number		S 8 6 3526		2. Date		3. Retrieval Serial Number		4. Origin of Waste				5. Waste Code	
				M M D D Y Y		001228		Group TA Building Wing Room				A 76	
				091186		HSE-721							

6. Waste Description
TRU cement paste OLD CMP TO TA-54

[illegible]

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K - kilogram P - pound T - ton)		
6.9 T		Area T res wds 771155	

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie) (M = gram)	Error or Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	1 140	E	-1C	•	E	A					
PU 239	3 000	E	-1C	•	E	A					
U 235	2 685	E	+2M	•	E	E					
Am 241	7 200	E	+1C	•	E	A					
Am F P	1 350	E	-3C	•	E	A					
U 238	1 035	E	+2M	•	E	E					

APPROVALS		arrived at 0955 9/11/86
Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date Disposed						14. Disposal/Storage Location						15. Shaft Surface Dose	
M	M	D	D	Y	Y	Area	Shaft	Pit	Post(s)	Layer	Pos	mr/hr	
0	7	1	1	8	6	G		2	9	5	6	9	5

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
KEITH CARTER		KC	KC	AD	DB
Signature of the waste management representative and the approved person who met		Date	Date	Date	Date
(Signature) Keith Carter		9/11/86	9/11/86	9/11/86	9/11/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3527		2. Date M M D D Y Y 0 9 1 1 8 6				3. Retrieval Serial Number 0 0 1 2 2 7		4. Origin of Waste Group TA Building Wing Room HSE-7 21				5. Waste Code A 7 6	
------------------------------	--	---------------------------------------	--	--	--	--	--	---	--	--	--	---------------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		10	2

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSWD 5771156									
1667											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	1.740	E	1C			A					
PU 239	3.000	E	1C			A					
U 235	2.685	E	12M			E					
Am 241	7.200	E	1C			A					
MFP	1.350	E	3C			A					
U 238	1.035	E	12M			E					

Waste Generator (Print Name Here) Earl J. Cox		HSE-17-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional) amined @ 10:30 9/11/86	
Earl J. Cox by J.M.		Joe A. Vigil			

13. Date Disposed M M D D Y Y 0 9 1 1 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 219 5 T 9 5						15. Shaft Surface Dose mr/hr	
---	--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer KC	Verified KC
Signature certifies that waste is in compliance criteria and all disposal and handling were correct (Signature) Keith Carter		Date 9/11/86	Date 9/11/86	Date 9/12	Date 9/12/86
Form Number HS 10-2A (3/86)					

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number S 8 6 3528		2. Date M M D D Y Y 09 11 86		3. Retrievable Serial Number 001230		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
-------------------------------------	--	---	--	---	--	---	--	--	--	-----------------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8m ³		12	3

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Areq TRSUD 5771157									
6.5T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
Pu 238	1.740	E	-1C		E	A					
Pu 239	3.000	E	-1C		E	A					
U 235	2.685	E	+2A		E	E					
Am 241	7.200	E	+1C		E	A					
MP 1	1.350	E	-3C		E	A					
U 238	1.035	E	+2M		E	E					

Waste Generator (Print Name Here) Earl J. Cox		APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
Signature certifies that waste acceptance criteria were met.		Signature certifies that waste packaging and shipment requirements were met.			
Earl J. Cox by JM		Joe A. Vigil			

13. Date Disposed M M D D Y Y 09 11 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 15T 16 9 C						15. Shaft Surface Dose mr/hr	
---	--	--	--	--	--	--	--	--	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC		Logbook KC		Computer (Signature)		Verified (Signature)	
Signature certifies that waste acceptance criteria and disposal requirements were met.		Date 9/16/86		Date 9/16/86		Date 9/16/86		Date 9/16/86	
Form Number HS 10-2A (3/86)									

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3529		2. Date M M D D Y Y 09 12 86		3. Retrievable Serial Number 001217		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A 716	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	---------------------------	--

6. Waste Description TRU cement paste OLD CMD TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		15	5

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RSWD 5771161									
66T											

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
Pu 238	1.530	E-3M			E	A			
Pu 239	3.500	E-10M			E	A			
U 235	2.895	E-12M			E	E			
Am 241	2.010	E-11M			E	A			
Am F P	7.890	E-5C			E	A			
U 238	6.880	E-12M			E	E			

Waste Generator (Print Name Here) Earl J. Cox		APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here) Joe H. Vigil		Additional Signatures (Optional)	
Signature of Waste Generator Earl J. Cox by JM		Signature of Area Representative Joe H. Vigil			

13. Date Disposed M M D D Y Y 09 12 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 219 113 T 14 9 C					15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer KC	Verified D.8
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) Keith Carter		Date 9/12/86	Date 9/12/86	Date 9/22/86	Date 9/22/86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext 6095 MS J592

1. Form Number
S 8 6 3530

2. Date
M M D D Y Y
09/12/86

3. Retrievable
Serial Number
001216

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
28 m³

9. Package Radiation at
Surface (mr/hr) 15
1 Meter (mr/hr) 5

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
6.5 T

11. Additional Description of Packaging and Packaging Materials
Area 7 R5W0 S771162

12. Radionuclide Content

Nuclide	Amount	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account Project Code
Pu 239	3.500	E+0M			A	
Pu 238	1.330	E-3M			A	
Am 241	2.010	E+1M			A	
U 235	8.000	E+2M			A	
MFP	7.000	E-4C			A	
U 238	6.480	E+2C			A	

Waste Generator (Print Name Here)

Earl J. Cox

APPROVALS

HSE-7/10-11 Area Representative (Print Name Here)

Joe A. Vigil

Arrived @ 13:50 9/12/86

Additional Signatures (Optional)

Signature of Waste Generator

Earl J. Cox by JGM

Signature of Area Representative

Joe A. Vigil

13. Date Disposed
M M D D Y Y
09/12/86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 14T 9 C

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received
KC

Logbook
KC

Computer
KC

Verified
KC

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number HS 10-2A (3/86)

Date
9/12/86

Date
9/12/86

Date
9/29

Date
9/29

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 8531

2. Date

M M D D Y Y

09 11 86

3. Retrievable

Serial Number

001215

4. Origin of Waste

Group

TA

Building

Wing

Room

HS E-721

5. Waste Code

A 76

6. Waste Description

TRU Cement Asbestos OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums No Gal

Wooden Crates No Volume-ft³

8. Gross Volume

Amount

(M = metric
F = foot
G = gallon)

2.8 m³

9. Package Radiation at

Surface (mr/hr)

1 M (mr/hr)

10

1

10. Gross Weight

Amount

(K = kilogram
P = pound
T = ton)

6.5 T

11. Additional Description of Packaging and Packaging Materials

Area T R-40 S771163

12. Radionuclide Content

SS Materials Write-Off

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 239	3.500	E	10A	+	E	A		
PU 238	1.330	E	3M	+	E	A		
AM 241	2.010	E	1M	+	E	A		
U 235	8.000	E	2M	+	E	A		
MFP	8.000	E	4C	+	E	A		
U 238	6.480	E	2M	+	E	A		

APPROVALS

arrived @ 0955 9/11/86

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Signature of Waste Generator	Signature of Area Representative	
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date

Disposed

M M D D Y Y

09 11 86

14. Disposal/Storage Location

Area

Shaft

Pit

Post(s)

Layer

Pos

G

29

6

T71

9

5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Keith Carter

Received

NC

Date

9/11/86

Logbook

KC

Date

9/14/86

Computer

9/22

Date

9/29

Verified

DB

Date

9/29

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

HSE-7 Waste Management
Ext 6095 MS J592

1. Form Number
S 8 6 1532

2. Date
M M D D Y Y
0 9 1 1 8 6

3. Retrievable
Serial Number
0 0 1 2 2 2

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A 7 6

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
2.8 M³

9. Package Radiation at
Surface (mr/hr) 26
1 Meter (mr/hr) 8

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
644 T

11. Additional Description of Packaging and Packaging Materials
Area T RSWD 5771165

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account	Project Code
P U 238	1.740	E-1C						
P U 239	3.000	E-1C						
U 235	2.655	E-12M						
Am 241	7.200	E-1C						
MEP	1.350	E-3C						
U 238	1.035	E-12M						

Waste Generator (Print Name Here) Earl J. Cox
HSE-7 Waste Management Representative (Print Name Here) Joe A. Vigil
Signature certifies that waste acceptance criteria and all disposal requirements were met
Signature certifies that waste packaging and shipping is safe to handle and transport

13. Date Disposed
M M D D Y Y
0 9 1 1 8 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos.
G 29 5 T 9 S

15. Shaft Surface Dose
mr/hr

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER
Received RC Logbook KC Computer 2.2 Verified WP
Date 9/11/86 Date 9/11/86 Date 9/11/86 Date 9/11/86

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Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read entire form or back carefully before completing this form.

Waste Management
LA-904 MS-1082

1. Form Number

S 8 6 3533

2. Date

M M D D Y Y

09 12 86

3. Retrievable

Serial Number

001223

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A 76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
28m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
15	4

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
63T	

11. Additional Description of Packaging and Packaging Materials

Area T ASWD S771146

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	1.740	E	-1C		E	A		
PU 239	3.000	E	-1C		E	A		
U 235	2.685	E	12M		E	E		
AM 241	7.200	E	11C		E	A		
MFP	1.350	E	-3C		E	A		
U 238	1.035	E	12M		E	E		

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-7/10-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Signature certifies that waste acceptance criteria and all disposal requirements were met. Earl J. Cox by JMC	Signature certifies that waste acceptance criteria and all disposal requirements were met. Joe A. Vigil	

13. Date

Disposed

M M D D Y Y
09 12 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G			2915T	9	C

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Signature: Keith Carter

Received

KC

Date

9/12/86

Logbook

KC

Date

9/12/86

Computer

RD

Date

9/12/86

Verified

RD

Date

9/12/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 0534

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

09/12/86

3. Retrievable Serial Number

001218

4. Origin of Waste

Group	A	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
2.8m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
12	3

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
65 T	

11. Additional Description of Packaging and Packaging Materials

Area 9 T RSWO 5771168

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	3.300	-4				A		
PU 239	3.300	-7				A		
AM 241	1.040	-1				A		
U 235	2.000	-1				A		
MAA	2.500	-3C				A		

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by [Signature]	Joe A. Vigil	

13. Date Disposed	14. Disposal/Storage Location	15. Shaft Surface Dose
M M D D Y Y 09/12/86	Top Tm 2.25 Area Shaft Pit Post(s) Layer Pos. G 29 4 9 C	mr/hr 9.2

HSE-7 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
EUGENE C. SALAZAR	AL	29	PL	AP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) [Signature]	Date 9-11-86	Date 9-11-86	Date 9-11-86	Date 9-11-86

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3535

HSE-7 Waste Management
Ext. 6095, MSB 0.97

2. Date

M M D D Y Y

09/11/86

3. Retrievable Serial Number

001219

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

476

6. Waste Description

TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
2.8m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
10	1

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
64T	

11. Additional Description of Packaging and Packaging Materials

AREG T ASWD 5771169

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	3.300	-4				A		
PU 239	3.300	-4				A		
AM 241	1.040	-4				A		
U 235	2000	-4				A		
MFP	2500	-4				A		

APPROVALS

armed 0955 9/11/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7 Waste Management Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by J.M.

Joe A. Vigil

13. Date

Disposed

M M D D Y Y

09/11/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pcs.
G		296	T71	91	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

PC

Verified

PC

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date

9/11/86

Date

9/11/86

Date

9/22

Date

7/2/86

Revised 10/85 HSE-7/2/85

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions in back carefully before completing this form.

1. Form Number

S 8 5 3536

HSE-7 Waste Management
Ext 6095, MS J592

2. Date

M M D D Y Y

09 11 86

3. Retrievable Serial Number

0101220

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Number of Waste Packages

Plastic Bags	Card-Board Boxes	Drums	Wooden Crates
No.	No.	Gal.	Volume-ft ³

8. Gross Volume

Amount (M = meter³
F = foot³
G = gallon)

2.8 m³

9. Package Radiation at

Surface (mr/hr) 1.0

1 Meter (mr/hr) 2.0

10. Gross Weight

Amount (K = kilogram
P = pound
T = ton)

6.3 T

11. Additional Description of Packaging and Packaging Materials

ARC9 T RSWD S771170

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
Pu238	3.300	-4				A		
Pu239	3.300	-4				A		
Am241	1.040	-4				A		
U235	2.000	-4				A		
MFP	2.500	-3	C			A		

APPROVALS

arrived @ 10:30 9/11/86

Waste Generator (Print Name Here)

Earl J Cox

HSE-11-10-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste acceptance criteria and all disposal requirements were met.

Earl J Cox by JAC

Signature certifies that waste package or shipment is safe to handle and transport.

Joe A. Vigil

13. Date Disposed

M M D D Y Y
09 11 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	6 T	9	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

11/2/86

Verified

11/2/86

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date

9/11/86

Date

9/11/86

Date

9/22/86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This record is to be filled out by the waste generator or the waste management representative.

1. Form Number

S 8 6 3537

2. Date

M M D D Y Y

09 12 86

3. Retrievable

Serial Number

0001221

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-1721

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TP-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums

No

Gal

Wooden Crates

No

Volume-ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

2.8 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

15

4

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

6.5 T

11. Additional Description of Packaging and Packaging Materials

Area T ASKUA S771171

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
Pu 238	1.740	E	-1C	+	E	A		
Pu 239	3.000	E	-1C	+	E	A		
Am 241	7.200	E	-1C	+	E	A		
U 235	2.685	E	+2M	+	E	E		
MF P	1.350	E	-3C	+	E	A		
U 238	1.035	E	+2M	+	E	E		

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

0950 9/12/86

13. Date

Disposed

M M D D Y Y

09 12 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		219	14T115	9	C

15. Shaft Surface Area

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

AS

Verified

DP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

9/12/86

Date

9/12/86

Date

9/12/86

Date

9/12/86

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Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3538		Waste Management Ext. 6095, MS J592		
2. Date M M D D Y Y 09 12 86	3. Retrievable Serial Number 001224	4. Origin of Waste Group TA Building Wing Room HSE-7 21		5. Waste Code A 76

6. Waste Description TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						288		15	4

10. Gross Weight Amount (K = kilogram P = pound T = ton) 66T	11. Additional Description of Packaging and Packaging Materials AREA T RSKW 5771174
--	--

12. Radionuclide Content						SS Materials Write-Off		
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1740	E	-1 C		E	A		
PU 239	3000	E	-1 C		E	A		
U 235	2485	E	+2 M		E	E		
Am 241	7200	E	+1 C		E	A		
Am 241	1350	E	-3 C		E	A		
U 238	1035	E	+2 M		E	E		

Waste Generator (Print Name Here) Earl J. Cox		HSE-17-18-11 Area Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Earl J. Cox		Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Joe A. Vigil			

13. Date Disposed M M D D Y Y 09 12 86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 15T 9 C	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received KC	Logbook KC	Computer Q22	Verified DP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter		Date 9/12/86	Date 9/10/86	Date 9/12/86	Date 9/12/86
Form Number HSE-10-2A (5/86)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3569		2. Date M M D D Y Y 08 29 86		3. Retrieval Serial Number 001262		4. Origin of Waste Group TA Building Wing Room 456-721				5. Waste Code 476	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	----------------------	--

6. Waste Description TRU cement paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28		25	6

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T ASWD S 772487									
63	T										

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	6.428	E	-1C		E	A					
PU 239	4.214	E	-1C		E	A					
Am 241	1.743	E	+2C		E	A					
AFP	0.426	E	+3C		E	A					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Lux	HSE-11-10/-11 Area Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Lux by J.M.	Joe A. Vigil	

13. Date Disposed M M D D Y Y 08 29 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 15 195				15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR		Received 8-29-86	Logbook 29	Computer 9/1/86	Verified BP
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Eugene C. Salazar		Date 8-29-86	Date 8-29-86	Date 9/1/86	Date 9-15-86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3540		2. Date M M D D Y Y 08 29 86		3. Retrieval Serial Number 001263		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	--------------------------------------	--	--	--	--	--	----------------------	--

6. Waste Description TRU Cement Paste OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28		25	6

10. Gross Weight Amount (K = kilogram P = pound T = ton) 65 T		11. Additional Description of Packaging and Packaging Materials Area T ASWD 5772488									
---	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	4.428	E	-1C		E	A					
PU 239	4.214	E	-1C		E	A					
AM 241	1.743	E	+2C		E	A					
AFP	2.426	E	-3C		E	A					
		E			E						
		E			E						

APPROVALS		
Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-1: Area Representative (Print Name Here) Joe H. Vigil	Additional Signatures (Optional)
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date Disposed M M D D Y Y 08 29 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 15T 95					15. Shaft Surface Dose mr/hr	
--	--	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR		Received 8-29-86	Logbook 29	Computer 8-29-86	Verified 8-15-86
Signature Eugene C. Salazar		Date 8-29-86	Date 8-29-86	Date 8-29-86	Date 8-15-86
Form Number HSE-10-2A (3/86)					

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3541

2. Date

M M D D Y Y

08/15/86

3. Retrievable

Serial Number

001264

4. Origin of Waste

Group TA Building Wing Room
HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft³

8. Gross Volume

Amount (M = meter³, F = foot³, G = gallon)
2.8m³

9. Package Radiation at

Surface (mr/hr) 1 Meter (mr/hr) 5.

10. Gross Weight

Amount (K = kilogram, P = pound, T = ton)
65T

11. Additional Description of Packaging and Packaging Materials

AREQ T RSKNO S772489

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	6428	E	-1C		E			
PU 239	4214	E	-1C		E			
AM 241	1743	E	+2C		E			
MF P	2426	E	-3C		E			
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe M. Vigil

Additional Signatures (Optional)

Earl J. Cox by JM

Joe M. Vigil

13. Date

Disposed

M M D D Y Y
08/15/86

14. Disposal/Storage Location

Area Shaft Pit Post(s) Layer Pos
G 29 11T+29 S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

92

Verified

SP

Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature)

Keith Carter

Date

8/15/86

Date

8/15/86

Date

9/1/86

Date

9-1586

Form Number HS 10-1A (2/78)

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3542

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y
08 15 86

3. Retrievable

Serial Number

001265

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A716

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
25	5

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T ASWD 5772490

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	4428	E	-1C		E	A		
PU 239	4214	E	-1C		E	A		
AM 241	1743	F	12C		E	A		
MF 1	2426	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox by J.M.

Signature certifies that waste package or shipment is ready to be handled and transported.

Joe A. Vigil

13. Date Disposed

M M D D Y Y
08 15 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	12T	9	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

KC

Verified

SP

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Keith Carter

Date
8/15/86

Date
8/15/86

Date
9/1/86

Date
P-5-86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3548

Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

08/15/86

3. Retrievable

Serial Number

001266

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMA TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

No.

Gal.

Wooden Crates

No.

Volume-ft³

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

28 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

25

5

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

54 T

11. Additional Description of Packaging and Packaging Materials

Area T Residual 5772491

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off Account	Project Code
PU 238	6.428	E	-1C	♦	E	A		
PU 239	4.214	E	-1C	♦	E	A		
AM 241	1.743	E	-2C	♦	E	A		
AFP	2.426	E	-3C	♦	E	A		
		E		♦	E			
		E		♦	E			

APPROVALS

Approved @ 10:50 8/15/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Earl J. Cox 8/15/86

Joe A. Vigil

13. Date

Disposed

M M D D Y Y

08/15/86

14. Disposal/Storage Location

Area Shaft Pit Post(s) Layer Pos

G 29 11TH 29 S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KE

Logbook

KE

Computer

DP

Verified

SP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

8/15/86

Date

8/15/86

Date

9/1/86

Date

9-158

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 9 6 3544

HSE-7 Waste Management
Ext 6095, MS J592

2. Date

M M D D Y Y

082986

3. Retrievable

Serial Number

001260

4. Origin of Waste

Group	TA	Building	Wing	Room
MS-721				

5. Waste

Code

A716

6. Waste Description

TRU Cement Paste OLD CMP TO TA 84

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³

8. Gross Volume

Amount (M = meter³, F = foot³, G = gallon)

2.8

9. Package Radiation at

Surface (mr/hr) 1 Meter (mr/hr)

20

7

10. Gross Weight

Amount (K = kilogram, P = pound, T = ton)

647

11. Additional Description of Packaging and Packaging Materials

AREQ TRUSWD 5772492

12. Radionuclide Content

SS Materials Write-Off

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	64428	E	-1C		E	A		
PU 239	1214	E	-1C		E	A		
AM 241	11743	E	+2C		E	A		
U 235	11000	E	+0M		E	E		
U 238	31000	E	+0M		E	E		
AFP	2426	E	-3C		E	A		

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-11/10/11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste acceptance criteria and all disposal requirements were met

Earl J. Cox

Signature certifies that waste package or shipment is safe to handle and transport

Joe A. Vigil

13. Date Disposed

M M D D Y Y
082986

14. Disposal/Storage Location

Area	Shaft	Pt	Post(s)	Layer	Pos
E			2915		75

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

RICHARD C. SALAZAR

Received

EA

Logbook

29

Computer

22

Verified

27

Date

8-29-86

Date

8-29-86

Signature

8-29-86

Signature

8-29-86

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3545

Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

08 29 86

3. Retrieval Serial Number

001261

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A 76

6. Waste Description

TRU Cement Paste OLD CMP TP TA-54

7. Numbers of Waste Packages

Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No Volume-ft³

8. Gross Volume

Amount (M = meter³, F = foot³, G = gallon)

2.8 m³

9. Package Radiation at

Surface (mr/hr) 1 Meter (mr/hr)

25 6

10. Gross Weight

Amount (K = kilogram, P = pound, T = ton)

65 T

11. Additional Description of Packaging and Packaging Materials

Area T ASWD S772493

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	SS Materials Write-Off Account	Project Code
Pu 238	6428	E -1	C		E	A		
Pu 239	4214	E -1	C		E	A		
Am 241	1743	E +2	C		E	A		
Am P	2426	E -3	C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by JM	Joe A. Vigil	

13. Date

Disposed

M M D D Y Y

08 29 86

14. Disposal/Storage Location

Area Shaft Pit Post(s) Layer Pos.

6 29 15 T 9 5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

BERNIE C. SALAZAR

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Received

8-24-86

Logbook

29

Date

8-24-86

Computer

29

Date

8-24-86

Verify

29

Date

8-15-86

Los Alamos

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3546

HSF 7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y

08 11 48 6

3. Retrievable

Serial Number

003305

4. Origin of Waste

Group

T.A.

Building

Wing

Room

HSE-721

5. Waste Code

476

6. Waste Description

TRAC CEMENT PASTE OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums No.

Gal.

Wooden Crates No.

Volume-ft³

8. Gross Volume

Amount

(M = meter³
F = foot³
G = gallon)

2.8 M

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

4. 1.3

10. Gross Weight

Amount

(K = kilogram
P = pound
T = ton)

6.7 T

11. Additional Description of Packaging and Packaging Materials

Area T ASKED 5780135

12. Radionuclide Content

SS Materials Write-Off

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1.200	E	-1C		E	A		
PU 239	2.750	E	-2C		E	A		
AA 241	3.535	E	-1C		E	A		
MFP	1.681	E	-2C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSF-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Eugene J. Cox	Joe A. Vigil	
Eugene J. Cox by JMC	Joe A. Vigil	

13. Date Disposed

M M D D Y Y
08 11 48 6

14. Disposal/Storage Location

Area Shaft Pit Post(s) U Layer Pos.
G 29 10 T 9 5

15. Shaft Surface Dose

mr/hr

HSF-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAZAR

Received

29

Logbook

29

Signature

29

Verified

29

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Eugene J. Cox

Date

11/18/08

Date

11/18/08

Date

11/18/08

Date

11/18/08

Form Number: HSF-7-10/11-1

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3547

HSE-7 Waste Management

Rev. 6095 MS 1592

2. Date

M M D D Y Y

08/15/86

3. Retrievable

Serial Number

003306

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste

Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
5	0

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSKW 5780/36

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	1200	E	-1C		E	A		
PU 239	2750	E	-2C		E	A		
AM 241	3535	E	-1C		E	A		
AFP	1481	E	-2C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10-11 Area Representative (Print Name Here)

Joe A. Vigil

Additional Signatures (Optional)

Signature certifies that waste packaging and all disposal requirements were met

Earl J. Cox

Signature certifies that waste packaging and all disposal requirements were met

Joe A. Vigil

13. Date

Disposed

M M D D Y Y
08/15/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	13	9	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

Maureen Tillery

Received

Aug 17

Logbook

MT

Computer

AS

Verified

AS

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Maureen Tillery

Date

8/15/86

Date

8/15/86

Date

8/15/86

Date

8/15/86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3548		HSE-7 Waste Management Ext. 6095, MS J592															
2. Date M M D D Y Y 08/14/86		3. Retrieval Serial Number 003307		4. Origin of Waste Group TA Building Wing Room HSE-7 21						5. Waste Code A76							
6. Waste Description TRU cement paste OLD CMP TO TA-54																	
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft³						8. Gross Volume Amount (M = meter³, F = foot³, G = gallon) 28 M				9. Package Radiation at Surface (mr/hr) 4 1 Meter (mr/hr) 1.5							
10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 170 T				11. Additional Description of Packaging and Packaging Materials Area T RS40 0780137													
12. Radionuclide Content																	
SS Materials Write-Off																	
Nuclide Amount ± (C = curie, M = gram) Error on Amount ± Amount Determined By: (A = analysis, M = measurement, E = estimate) Account Project Code																	
PU 238 1.200 E-1 C																	
PU 239 2.750 E-2 C																	
Am 241 3.535 E-1 C																	
MFP 1.681 E-2 C																	
APPROVALS																	
Waste Generator (Print Name Here) Earl J Cox				HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil						Additional Signatures (Optional)							
Signature certifies that waste is in accordance with a label and is safe to handle in transport.				Signature certifies that waste package or shipment is safe to handle in transport.													
Earl J Cox				Joe A. Vigil													
13. Date Disposed M M D D Y Y 08/14/86				14. Disposal/Storage Location Area Shaft Pit Post(s) U Layer Pos G 29 1 1T 95						15. Shaft Surface Dose mr/hr							
HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR										Received Date 8-14-86		Logbook Date 8-14-86		Inspector Date 8-14-86		Verifier Date 8-14-86	
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) [Signature]										Date 8-14-86		Date 8-14-86		Date 8-14-86		Date 8-14-86	

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3549		2. Date M M D D Y Y 08 15 86		3. Retrieval Serial Number 003308		4. Origin of Waste Group TA Building Wing Room HSE-721					5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	--	----------------------	--

6. Waste Description TRU CEMENT PASTE OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8m ³		5	0

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	AFTER T A'SKAD 5780138									
HST											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU238	14200	E	-1C		E	A					
PU239	24750	E	-2C		E	A					
AM241	134535	E	-1C		E	A					
NFP	14681	E	-2C		E	E					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-17-18/11 Area Representative (Print Name Here) J. A. Vigil	Additional Signatures (Optional)
Signature certifies that waste package(s) is/are in accordance with the applicable HSE-17-18/11 Area Representative's instructions and that the waste package(s) is/are ready for transport.		
Earl J. Cox by J.M.		J. A. Vigil

13. Date Disposed M M D D Y Y 08 15 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos C 2913T 45					15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) MARVIN TILLEY		Received YMT	Logbook MT	Computer 22	Verified SP
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) Marvin Tilley		Date Aug 15 86	Date 8/15/86	Date 8/12/86	Date 8-15-86



TRU Waste Storage Record
Change Form

Waste Package
Serial Number
5863549

1. Generator's Pre-Use Visual Inspection

Purchase Order #		Inspected Items	
This container has been visually inspected according to approved procedures and has been found to be free of damage that would make it unsuitable for TRU waste packaging.		☐ Ring, Bolt, and Nut	☐ Chime
		☐ Lid and Gasket	☐ Gouges
Printed Name		Signature	Date

2. Generator's Package Information

Group	Technical Area	Building	Cost Center	Program Code	Cost Account	Work Package
Additional Information Subject is A CMP AND located at Pit 29. Change for consistency. NO TARE weight				☐ DP ☐ Non-DP If Non-DP waste, attach DOE approval documentation.		
Container		Liner				
☐ Steel Drum (55 gal.)		☐ None				
☐ Pipe Overpack Type:		☐ 90 mil liner				
☐ Steel Drum (85 gal. Overpack)		☐ 125 mil liner				
☐ Standard Waste Box		☐ Fiberboard liner				
☐ Standard Waste Box Overpack		Internal Shielding				
☐ RH Canister		☐ None				
☐ Other (Call TWCO)		Type	Thickness (in.)	Hazardous Materials		
Filter Serial No.	01					
	02			Name	EPA Code	Quantity (g)
Waste Profile Number						
Gross Weight (lb.)						
Net Weight (lb.)						
Shipping Category						
LANL Waste Stream ID						
TRUCON Code						
Date Closed (MM/DD/YY):				Accumulation Start Date (MM/DD/YY):		
The data in this section were collected and waste described herein was packaged and labeled according to approved procedures.						
Printed Name DAVIS				Signature	Date 2/23/10	

3. Generator Site Health Physics Information

Gamma Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Neutron Dose Rate (mrem/h) (contact)	Survey Date	Survey Meter Model	Property Number	Calibration Void Date
Total Dose Rate (mrem/h) (contact)	The data in this section were collected according to approved procedures.			
Total Dose Rate (mrem/h) (1 meter)				
Alpha Contamination (dpm/100cm ²)	Printed Name		Date	
Beta-Gamma Cont. (dpm/100cm ²)	Signature			

Subject: [rt1 #151318] Fwd: Scan from a Xerox WorkCentre
From: "Charlotte Fernandez via RT" <wastehelp@lanl.gov>
To: vivianm@lanl.gov

Vivian,

Louella was trying to update the locations as per the change form in doing so she is not able to save until she fills in the tare wgt. Would it be possible to get the tare wgt on this pkg to be able to update in the data base.

Thanks
Charlotte

8:32:49 2010, cgf wrote:

> To: louellas@lanl.gov
> Subject: TWSR # S863549
> X-Attachments: Y:\Eudora\Attach\Scan0017951.PDF;
>
> Below is a copy of the ...
...snip...
> ... please update location on TWSR #
> S863549.
>
>
> This has already been approved through Monica to give this to you.

If
> you have any questions, let me know. Also once this is updated let
me

> know so that I may close out RT Ticket #151318.
>
>
> Thanks
> Charlotte

Louella J. Sandoval

From: Vivian Norris [vivianm@lanl.gov]
Sent: Wednesday, February 24, 2010 7:22 AM
To: Louella J. Sandoval
Subject: Re: S863549
Attachments: TRU change form.pdf

Louella,
Sorry, this is not a drum. It is a CMP and needs to be relocated to Pit 29. Here is the correction. Tare weight is 0. Can you please let me know when complete?
Thank you
Vivian

At 11:43 AM 2/22/2010, you wrote:

>Hi Vivian:

>

>I need to make some changes on TWSR S863549 and in order to save the
>TWSR after the information is entered we need Package Tare Wt. Please
>send me another Change Form with the Tare wt. information.

>

>Thanks,
>Louella

Louella J. Sandoval

From: Vivian Norris [vivianm@lanl.gov]
Sent: Wednesday, February 24, 2010 7:22 AM
To: Louella J. Sandoval
Subject: Re: S863549
Attachments: TRU change form.pdf

Louella,
Sorry, this is not a drum. It is a CMP and needs to be relocated to Pit 29. Here is the correction. Tare weight is 0. Can you please let me know when complete?
Thank you
Vivian

At 11:43 AM 2/22/2010, you wrote:

>Hi Vivian:

>

>I need to make some changes on TWSR S863549 and in order to save the
>TWSR after the information is entered we need Package Tare Wt. Please
>send me another Change Form with the Tare wt. information.

>

>Thanks,

>Louella

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number
S 8 6 3550

HSE-7 Waste Management Ext. 609C, MS J592
--

2. Date M M D D Y Y 08 07 86	3. Retrieval Serial Number 001280	4. Origin of Waste Group TA Building Wing Room HSE-721	5. Waste Code A76
------------------------------------	---	--	-------------------------

6. Waste Description TRU Cement + Plaster - OLD CMP TO TASH
--

7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³	8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 28 M	9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 50 6
---	---	--

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 58 T	11. Additional Description of Packaging and Packaging Materials ARC9 T RESW0 S780182
---	---

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By: (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	8.875	E	-2C	±	E	A		
PU 239	8.175	E	-1C	±	E	A		
AM 241	7.750	E	-1C	±	E	A		
AFP	5.100	E	-3C	±	E	A		
		E		±	E			
		E		±	E			

Waste Generator (Print Name Here) Earl J. Cox		HSE-7 Waste Management Representative (Print Name Here) Joe A. Vigil		Additional Signatures (Optional)	
Signature of Waste Generator Earl J. Cox		Signature of Representative Joe A. Vigil			

13. Date Disposed M M D D Y Y 08 07 86	14. Disposal Storage Location Area Shaft Pit Post(s) Layer Pos. G 299 T110 9 S	15. Shaft Surface Dose mr/hr
--	--	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received KC	Logbook KC	Comptroller PS	Verifier AG
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter	Date 8/7/86	Date 8/7/86	Date 8/7/86	Date 8/7/86
Form Number HSE-7-1 (Rev. 5/85)				

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

Waste Management
Ext. 6045, Mail 192

1. Form Number
S 8 6 3551

2. Date
M M D D Y Y
0 8 0 7 8 6

3. Retrievable
Serial Number
0 0 1 2 8 1

4. Origin of Waste
Group TA Building Wing Room
4 5 E - 7 2 1

5. Waste
Code
A 7 6

3. Waste Description
TRU cement paste-OLD CMP TO TA-54

7. Numbers of Waste Packages
Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No Volume-ft³

8. Gross Volume
Amount (M = meter³, F = foot³, G = gallon)
28 M³

9. Package Radiation at
Surface (mr/hr) 1 Meter (mr/hr)
50 6

10. Gross Weight
Amount (K = kilogram, P = pound, T = ton)
65 T

11. Additional Description of Packaging and Packaging Materials
A 1 1 9 T R S W D S 7 8 0 1 8 3

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	8 8 7 5	E - 2 C				A		
PU 239	8 1 7 5	E - 1 C				A		
AM 241	9 7 5 0	E + 1 C				A		
MF P	5 1 8 0	E - 3 C				A		
		E						
		E						

APPROVALS Amended 14:15 8/7/86

Waste Generator (Print Name Here) Earl J Cox HSE-11-16/11 Area Representative (Print Name Here) Joe A. Vigil Additional Signatures (Optional)
Earl J. Cox Joe A. Vigil

13. Date Disposed
M M D D Y Y
0 8 0 7 8 6

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos
G 2 9 4 T 1 0 9 5

15. Shaft Surface Does
mr/hr

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER Received KC Logbook KC Computer DL Verified DL
Signature certifies that waste acceptance criteria and all disposal requirements were met
Keith Carter Date 8/7/86 Date 8/7/86 Date 8/14/86 Date 8/14/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3552		2. Date M M D D Y Y 080786				3. Retrievable Serial Number 001282		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A 76	
6. Waste Description TRU CEMENT PASTE OLD CMP TO TA-54													
7. Numbers of Waste Packages						8. Gross Volume				9. Package Radiation at			
Card-Board Boxes		Drums No Gal		Wooden Crates No Volume-ft ³		Amount		(M = meter ³ F = foot ³ G = gallon) 28m ³		Surface (mr/hr)		1 Meter (mr/hr)	
										50		6	
10. Gross Weight				11. Additional Description of Packaging and Packaging Materials									
Amount		(K = kilogram P = pound T = ton)		Areq TRSWD S780184									
6													
12. Radionuclide Content												SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)		Account	Project Code				
PU239	8.175	E	-1C				A						
PU238	8.875	E	-2C				A						
AM241	9.750	E	-1C				A						
NFP	5.180	E	-3C				A						
		E											
		E											
APPROVALS received 14:15 8/7/86													
Waste Generator (Print Name Here) Earl J. Cox				HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil				Additional Signatures (Optional)					
Earl J. Cox				Joe A. Vigil									
13. Date Disposed M M D D Y Y 080786		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 299 9 5						15. Shaft Surface Dose mr/hr					
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER						Received KC		Logbook KC		Computer 22		Verified NG	
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter						Date 8/7/86		Date 8/13/86		Date 8/14/86		Date 8/14/86	

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3553

HSE-7 Waste Management
Ext. 6095, MS J592

2. Date

M M D D Y Y
08 07 86

3. Retrievable Serial Number

001283

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-7	21			

5. Waste Code

A76

6. Waste Description

TRU cement plaster OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
28 M	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
0.0	0.3

10. Gross Weight

Amount	K = kilogram P = pound T = ton
69 T	

11. Additional Description of Packaging and Packaging Materials

Area T ASWD S780189

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	2.129	E	-1C			A		
AC 239	1.971	E	-1C			A		
Am 241	9.096	E	-1C			A		
U 235	2.286	E	-3M			E		
		E						
		E						

APPROVALS Time Received 10:15 8/7/86

Waste Generator (Print Name Here) Earl J. Fox	HSE-7/10/11 Area Representative (Print Name Here) WILLIAM F. ROMERO	Additional Signatures (Optional)
Signature of Waste Generator Earl J. Fox by J.M.	Signature of Area Representative William F. Romero	

13. Date Disposed

M M D D Y Y
08 07 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		299	T/10	9	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Signature certifies that waste acceptance criteria and all disposal requirements were met

Form Number HSE-7A (2/86)

Receiver's

KC

Date 8/7/86

Logbook

KC

Date 8/7/86

Computer

De

Date 8/7/86

Verified

De

Date 8/7/86

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Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3554		HSE-7 Waste Management Rev. 6/85 MS 1592					
2. Date M M D D Y Y 08 07 86		3. Retrieval Serial Number 001284		4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A 76	
6. Waste Description TRU Cement Paste - OLD CMP TO TA-54							
7. Number of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft ³				8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 M ³		9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 13	
10. Gross Weight Amount (K = kilogram P = pound T = ton) 63 T		11. Additional Description of Packaging and Packaging Materials Area T RESWD ST80190					
12. Radionuclide Content							
SS Materials Write-Off							
Amount Determined By: (A = analysis M = measurement E = estimate)							
Error on Amount							
Amount							
Nuclide							
Amount							
±							
(C = curie M = gram)							
PU238 24129 E-1 C							
PU239 14971 E-1 C							
AM241 94096 E-1 C							
U12 24286 E-13 M							
E							
E							
E							
APPROVALS Time reviewed 10:15 8/7/86							
Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) William T. Romo		Additional Signatures (Optional)			
Earl J. Cox by JM		William T. Romo					
13. Date Disposed M M D D Y Y 08 07 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 299 T10 9 S				15. Shaft Surface Dose mr/hr	
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER				Received KC		Logbook KC	
Signature Keith Carter				Date 8/7/86		Computer Date 8/11/86	
Form Number HS 10-2A (3/85)				Verified Date 8/24/86			

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3555

2. Date

M M D D Y Y
08 07 86

3. Retrievable Serial Number

001285

4. Origin of Waste

Group	TA	Building	Wing	Room
MSG-172V				

5. Waste Code

A 76

6. Waste Description

TRU cement paste-OLD CMP TO T-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
100	13

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T P5WD S780191

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	2.129	E	-1C		E	A		
PU 239	1.971	E	-1C		E	A		
Am 241	9.096	E	+1C		E	A		
U 12	2.286	E	+3A		E	E		
		E			E			
		E			E			

APPROVALS Time received 10:15 8/7/86

Waste Generator (Print Name Here)

Earl J Cox

HSE-1/-10/-11 Area Representative (Print Name Here)

W. F. Romero

Additional Signatures (Optional)

Earl J. Cox by gm.

William F. Romero

13. Date Disposed

M M D D Y Y
08 07 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		29	9	T10	9

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

25

Verified

DD

Signature

Keith Carter

Date

8/7/86

Date

8/7/86

Date

8/14/86

Date

8/24/86

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3556		HSE-7 Waste Management Ext. 6095, MS J592					
2. Date M M D D Y Y 0 8 0 7 8 6	3. Retrievable Serial Number 0 0 1 2 8 6	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A 7 6			
6. Waste Description TRU Cement paste-OLD CMP TO TA 54							
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³		8. Gross Volume Amount M = meter ³ F = foot ³ G = gallon 2.8 M		9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 80 13			
10. Gross Weight Amount (K = kilogram P = pound T = ton) K 5 T		11. Additional Description of Packaging and Packaging Materials A 5 C 2 T R 5 K U D S 7 8 0 1 9 2					
12. Radionuclide Content				SS Materials Write-Off			
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount ±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	21 29	E -1 C					
PU 239	1 9 7 1	E -1 C					
AM 241	9 0 9 6	E -1 C					
U 1 2	2 2 8 6	E -1 3 M					
		E					
		E					
APPROVALS Rejected 11:00 8/7/86							
Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) William F. Romero		Additional Signatures (Optional)			
Earl J. Cox by Sm.		William F. Romero					
13. Date Disposed M M D D Y Y 0 8 0 7 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 2 9 9 1 10 9 S			15. Shaft Surface Dose mr/hr		
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received Kc		Logbook Kc		Computer 02	
Signature Keith Carter		Date 8/7/86		Date 8/7/86		Date 8/7/86	

Los Alamos

10:20am

Los Alamos National Laboratory

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

Los Alamos, New Mexico 87545

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3557

Waste Management
Ext 6090 MS J592

2. Date

M M D D Y Y

080886

3. Retrievable

Serial Number

001287

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU Cement Asbestos-OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
30	10

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T R S W D S 7 8 0 1 9 3

12. Radionuclide Content

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	24129	E	-1 C		E	A		
PU 239	14971	E	-1 C		E	A		
AM 241	94096	E	+1 C		E	A		
U 12	24286	E	+1 M		E	E		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-11-18/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox	Joe A. Vigil	

13. Date

Disposed

M M D D Y Y
8 8 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
6		24	IT	9	S

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
Earl J. Cox	AC	AC	AC	AC
Signature certifies that waste acceptance criteria and all disposal requirements were met.	Date 8-8-86	Date 8-8-86	Date 8/10/86	Date 8/10/86

Los Alamos

9:20 AM 8-8-86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

1. Form Number S 8 6 3558		3. Retrievable Serial Number 001288		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A716	
2. Date M M D D Y Y 08 08 86									

6. Waste Description TRU cement post-OLD CMP TO TA-54											
--	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card- Board Boxes	Drums No	Gal.	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28m ³		40	10

10. Gross Weight Amount (K = kilogram P = pound T = ton) 550		11. Additional Description of Packaging and Packaging Materials AREA T RS 40 S 780194									
--	--	--	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	2129	E	-1C		E	A					
PU 239	1971	E	-1C		E	A					
AM 241	9096	E	+1C		E	A					
U 12	2286	E	+3M		E	E					
		E			E						
		E			E						

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-7 Waste Management Representative (Print Name Here) Joe A. Vigil	Additional Signatures (Optional)
Earl J. Cox by SM	Joe A. Vigil	

13. Date Disposed M M D D Y Y 08 08 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 1 1 1 1 9 5						15. Shaft Surface Dose mr/hr	
---	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) Andrew Gutierrez		Received AC Date 8-8-86	Logbook AC Date 8-8-86	Computer AD Date 8-8-86	Verified J.G. Date 8-8-86
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature)					

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing form.

1. Form Number

S 8 6 3559

HSE-7 Waste Management
Ext. 6095, MS 3042

2. Date

M M D D Y Y

0 8 / 1 4 / 8 6

3. Retrieval Serial Number

Serial Number

0 0 / 1 2 8 9

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A 76

6. Waste Description

TRU cement paste OLD CMA TO TA-54

7. Numbers of Waste Packages

Plastic Bags

Card-Board Boxes

Drums No

Gal

Wooden Crates No Volume-ft³

• • • • •

8. Gross Volume

Amount

M = meter³
F = foot³
G = gallon

2.8 m³

9. Package Radiation at

Surface (mr/hr)

1 Meter (mr/hr)

20

6

10. Gross Weight

Amount

K = kilogram
P = pound
T = ton

5.6 T

11. Additional Description of Packaging and Packaging Materials

Areq T ASWD S780195

12. Radionuclide Content

SS Materials Write-Off

Nuclide	Amount	±	(C = curie) (M = gram)	Error on Amount	±	Amount Determined By (A = analysis) (M = measurement) (E = estimate)	Account	Project Code
PU238	24129	E	-1C	•	E	A		
PU239	14971	E	-1C	•	E	A		
Am241	9096	E	-1C	•	E	A		
U12	2286	E	+3m	•	E	E		
U235	•	E		•	E			
	•	E		•	E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10/11 Area Representative (Print Name Here)

LONNIE E. MARTIN

Additional Signatures (Optional)

Earl J. Cox

Lonnie E. Martin

13. Date Disposed

M M D D Y Y
8 8 / 1 4 / 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
G		29	95		

15. Shaft Surface Dose

mr/hr

•

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. Scharf

Received

65

Logbook

29

Computer

22

Verified

27

Date

8/14/86

Date

8/14/86

Date

8/14/86

Date

8/15/86

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Eugene C. Scharf

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number

S 8 6 3560

HSE-7 Waste Management
Ext: 6095, MS J592

2. Date

M M D D Y Y

08 28 86

3. Retrieval

Serial Number

001267

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU CEMENT PASTE OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
208 m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
20	7

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
5.1 T	

11. Additional Description of Packaging and Packaging Materials

AREQ TRSWO S780224

12. Radionuclide Content

Nuclide	Amount	±	(C = cure M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU238	6.500	E	-2C		E	A		
PU239	7.175	E	-1C		E	A		
Am241	1.568	E	-2C		E	A		
NFP	0.965	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-7-10/11 A-72 Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Lennie E. Martin	
Earl J. Cox by JGM	Lennie E. Martin	

13. Date Disposed

M M D D Y Y
08 28 86

14. Disposal/Storage Location

Area	Shaft	Pt	Post(s)	Layer	Pos
G		29	13TA	9	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAS

Received

8/28/86

Logbook

29 ES

Computer

29 ES

Verified

29 ES

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Eugene C. Salas

Date

8/28/86

Date

8/28/86

Date

8/28/86

Date

8/28/86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back of form fully before completing this form.

1. Form Number

586 3561

2. Date

M M D D Y Y

08 28 86

3. Retrievable

Serial Number

001268

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-724				

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount (M = meter³, F = foot³, G = gallon)

2.8 M³

9. Package Radiation at

Surface (mr/hr) 1 Meter (mr/hr)

18 45

10. Gross Weight

Amount (K = kilogram, P = pound, T = ton)

6.5 T

11. Additional Description of Packaging and Packaging Materials

Area T R@WO S780225

12. Radionuclide Content

Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU 238	6.500	E	-2C		E	A		
PU 239	7.175	E	-1C		E	A		
AM 241	1.568	E	-2C		E	A		
MFP	0.905	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste #1 Generator (Print Name Here)	Waste #1-10-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Louise E. Martin	
Earl J. Cox by J.M.	Louise E. Martin	

13. Date

Disposed

M M D D Y Y

08 28 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
6		29	12T13	95	

15. Shaft Surface Dose

mr/hr

Waste Management Representative (Print Name Here)

C. SALAZAR

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

Received

66

Date

8-28-86

Logbook

29

Date

8-28-86

Computer

82

Date

8-28-86

Verified

87

Date

8-28-86

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number

S 8 6 3562

2. Date

M M D D Y Y
08 29 86

3. Retrievable

Serial Number

001269

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

A76

6. Waste Description

TRU cement paste OLD CMP TO TA 54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
20	7

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSWA S780226

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	4500	E	-2C			A		
PU 239	7175	E	-1C			A		
Am 241	1500	E	-12C			A		
MPP	8965	E	-8C			A		
		E						
		E						

APPROVALS

Waste Generator (Print Name Here)	HSE-7/10/11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Eori J. Cox	Louise E. Martin	
Eori J. Cox by JM	Louise E. Martin	

13. Date

Disposed

M M D D Y Y
08 29 86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
5		29	14T15	95	

15. Shaft Surface Dose

mi/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAZAR

Received

SL

Date

8-29-86

Logbook

29

Date

8-29-86

Computer

JD

Date

8-15-86

Verified

SP

Date

8-15-86

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Form Number HS 10-8A (10)

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back and fill in before completing this form.

HSE-7 Waste Management
Rev. 10/95 MS-0592

1. Form Number

S 8 6 3563

2. Date

M M D D Y Y

08/29/86

3. Retrieval Serial Number

001270

4. Origin of Waste

Group TA Building Wing Room

HSE-721

5. Waste Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
20	7

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T ASKID 5780227

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU238	64500	E	-2C		E	A		
PU239	74175	E	-1C		E	A		
Am241	14568	E	12C		F	A		
MFP	9.650				E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10/11 Area Representative (Print Name Here)

Louise E. Martin

Additional Signatures (Optional)

Earl J. Cox

Louise E. Martin

13. Date Disposed

M M D D Y Y
08/29/86

14. Disposal/Storage Location

Area	Shelf	Pit	Post(s)	Layer	Pos.
6		29	14	19	5

15. Shaft Surface Door

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAZAR

Signature certifies that waste acceptance criteria and all disposal requirements were met.

(Signature)

E. Salazar

Received

29

Date

8-29-86

Logbook

29

Date

8-29-86

Computer

29

Date

8-29-86

Verified

29

Date

8-29-86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3564		HSE / Waste Management Ext. 6095, MS J592				
2. Date M M D D Y Y 08/14/86	3. Retrieval Serial Number 001271	4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at		
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 m ³	18	6

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 55T	11. Additional Description of Packaging and Packaging Materials Acreo T RSWD S780228
--	---

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
PU238	6500	E-2C			E			
PU239	7175	E-1C			E			
AM241	1568	E-1C			E			
AFP	650	E-1C			E			
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) LORRIE E. MARTIN	Additional Signatures (Optional)
Earl J. Cox by J.M.	Lorrie E. Martin	

13. Date Disposed M M D D Y Y 08/14/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 10T 95	15. Shaft Surface Dose mr/hr
--	---	---------------------------------

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. S...	Received Date 8/14/86	Log Jk Date 8/14/86	Computer Date 8/14/86	Verified Date 8/14/86
Signature Certifies that waste and container meet all disposal criteria and that waste is not (Signature) Eugene C. S...				
Form Number HSE-10-2A (3/88)				

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Reporting of this record is required by 40 CFR 191.101-103.

1. Form Number
S B 6 3565

2. Date
M M D D Y Y
08 28 86

3. Retrieval
Serial Number
001272

4. Origin of Waste
Group TA Building Wing Room
HSE-721

5. Waste
Code
A 76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
30	9

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSWD 5780229

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU238	6.500	E	-2C		E	A		
PU239	7.175	E	-1C		E	A		
Am241	1.568	E	-12C		E	A		
MFP	1.650	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	Waste Receiver (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Lonnie E. Martin	
Earl J. Cox	Lonnie E. Martin	

13. Date Disposed
M M D D Y Y
08 28 86

14. Disposal/Storage Location
Area Shaft Pit Post(s) Layer Pos
G 219 114T/15 91 S

15. Site Surface Dose
mr/hr

Waste Management Representative (Print Name Here)	Received	Logbook	Computer	Verified
ANDREW J. CATANACH	AC	AC	AD	DP
Signature certified that waste acceptance criteria and all disposal requirements were met	Date	Date	Date	Date
	8-28-86	8-28-86	9/1/86	9-15-86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

(NOTE: Please print name and title carefully before completing this form.)

1. Form Number	
S 8 6	3566

HSE-7 Waste Management
Ext. 6095, MS 5492

2. Date M M D D Y Y 08/14/86		3. Retrievable Serial Number 001273		4. Origin of Waste Group TA Building Wing Room HSE-7 21					5. Waste Code A76
------------------------------------	--	---	--	---	--	--	--	--	-------------------------

6. Waste Description TRU Cement Paste OLD CMP TP TA-54									
---	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 m ³		18	6

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials							
Amount	(K = kilogram P = pound T = ton)	Area T RESID 5780230							
55 T									

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(G = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	4500	E	-C		E	A		
PU 239	7175	E	-1C		E	A		
AM 241	1568	E	-1C		E	A		
AMP	9650	E	-1C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	LONNIE E. MARTIN	
Earl J. Cox by gm	Lonnie E. Martin	

13. Date Disposed	
M M D D Y Y	08/14/86

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos.
G		219	10T		195

15. Shaft Surface Dose	
mr/hr	

HSE-7 Waste Management Representative (Print Name Here)		Received	Logbook	Computer	Verified
EUGENE C. SALAZAR		ES	29	DP	DP
Signature (Printed Name) Eugene C. Salazar		Date	Date	Date	Date
		8/14/86	8/14/86	8/14/86	8/14/86
Form Number (HSE 10-86 (2/86))					

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number			
S 8 6	3567		
2. Date		3. Retrieval Serial Number	
M M D D Y Y			
08 / 48 / 6		001274	
4. Origin of Waste			
Group	TA	Building	Wing Room
HSE-7	24		
5. Waste Code			
A76			

8. Waste Description	
TRU	Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	$M = \text{meter}^3$ $F = \text{foot}^3$ $G = \text{gallon}$	Surface (mr/hr)	1 Meter (mr/hr)
		No	Gal	No	Volume-ft ³				
						248 m ³		20	6

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pound T = ton)		
60 T		ART PSW 05780231	

12. Radioisotope Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = cure M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	6500	E	-2C	♦	E	A					
PU 239	7175	E	-1C	♦	E	A					
AM 241	1568	E	-2C	♦	E	A					
PF 1	465	E	-1C	♦	E	A					
		E		♦	E						
		E		♦	E						

APPROVALS		
Waste Generator (Print Name Here)	HSE 17-18-11 (No Representative (Print Name Here))	Additional Signatures (Optional)
Earl J Cox	Harvie E Martin	
Earl J. Cox by gm	Harvie E Martin	

13. Date Disposed		14. Disposal/Storage Location						15. Shaft Surface Dose		
M	M	D	D	Y	Area	Shaft	Pit	Post(s)	Layer	Pos
0	8	1	4	8	G		X	9	9	5

HSE-7 Waste Management Representative (Print Name Here)				
EUGENE C. SALAZAR				
Signature certifies that waste acceptance criteria and all other applicable regulations have been met.				
(Signature) <i>Eugene Salazar</i>				
Form HSE-7 (Rev. 10-99)				

Received	Logbook	Computer	Verified
<i>ES</i>	<i>29</i>	<i>20</i>	<i>SP</i>
Date	Date	Date	Date
<i>8-14-86</i>	<i>8-14-86</i>	<i>9/1/86</i>	<i>9-15-86</i>

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3568		2. Date M M D D Y Y 08 14 86		3. Retrievable Serial Number 001 275		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
6. Waste Description TRU cement Asst. OLD CMP TO TA-54											
7. Numbers of Waste Packages Plastic Bags Card Board Boxes Drums No Gal Wooden Crates No Volume-ft ³				8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 m ³				9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 6			
10. Gross Weight Amount (K = kilogram P = pound T = ton) 5.3 T				11. Additional Description of Packaging and Packaging Materials Area T RS WD S780262							
12. Radionuclide Content											
Nuclide		Amount		±	(C = curie M = gram)	Error on Amount		±	Amount Determined By (A = analysis M = measurement E = estimate)		SS Materials Write-Off Account Project Code
PU 238		8.875		E	-2C	♦		E	A		
PU 239		8.175		E	-1C	♦		E	A		
Am 241		9.750		E	+1C	♦		E	A		
MFP		5.180		E	-3C	♦		E	A		
				E		♦		E			
				E		♦		E			
APPROVALS											
Waste Generator (Print Name Here) Earl J. Cox				HSE-7/10/11 Area Representative (Print Name Here) Lorraine L. Martin				Additional Signatures (Optional)			
Earl J. Cox by BM				Lorraine L. Martin							
13. Date Disposed M M D D Y Y 08 14 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos E 29 10T 95						15. Shaft Surface Dose mr/hr			
HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR						Received ES		Logbook 29		Computer DS	
(Signature) Eugene C. Salazar						Date 8-14-86		Date 8-14-86		Verified SP	
Form Number HS 10-2A (3/86)						Date 8-14-86		Date 8-14-86		Date 8-15-86	

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3569

2. Date

M M D D Y Y

08/14/86

3. Retrievable

Serial Number

001276

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste Code

A 76

6. Waste Description

TRU cement + Paste OLD CMP TO TD-54

7. Numbers of Waste Packages

Plastic Bags	Card Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
28 m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
20	6

10. Gross Weight

Amount	K = kilogram P = pound T = ton
50T	

11. Additional Description of Packaging and Packaging Materials

Area T RSWD S780263

12. Radionuclide Content

Nuclide	Amount	±	(C - cure) (M - gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	8.875	E	-2C		E	A		
PU 239	8.175	E	-1C		E	A		
AM 241	9.750	E	-1C		E	A		
MFP	5.180	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Lonnie E. Martin	
Earl J. Cox by gm	Ronnie E. Martin	

13. Date Disposed

M M D D Y Y
12/1/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos
6		29	9T		95

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. [Signature]

Received

[Signature]

Logbook

27

Computer

22

Verified

DP

Signature of person that a [Signature]

(Signature)

Date

1/4/86

Date

1/4/86

Date

2/4/86

Date

9-15-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S B 6 3570		HSE-7 Waste Management Ext. 6095, MS 1592							
2. Date M M D D Y Y 0 8 1 5 8 6		3. Retrievable Serial Number 0 0 1 2 7 7							
4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A 7 6							
6. Waste Description TRU Cement Paste OLD CMP TO TA-54									
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No. Gal. Wooden Crates No. Volume-ft ³ 		8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 m ³		9. Package Radiation at Surface (mr/hr) 1.5 1 Meter (mr/hr) 4					
10. Gross Weight Amount (K = kilogram P = pound T = ton) 65T		11. Additional Description of Packaging and Packaging Materials A 1 2 9 T R S W D S 7 8 0 2 6 4							
12. Radionuclide Content									
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code	
PU238	88.875	E	-2C	♦	E	A			
PU239	98.175	E	-1C	♦	E	A			
AM241	9.750	E	-1C	♦	E	A			
NFP	5.180	E	-3C	♦	E	A			
		E		♦	E				
		E		♦	E				
APPROVALS <i>initialed @ 10:55 8/15/86</i>									
Waste Generator (Print Name Here) Earl J. Cox		HSE-7/10/11 Area Representative (Print Name Here) LONNIE E. MARTIN		Additional Signatures (Optional)					
<i>Earl J. Cox</i>		<i>Lonnice E. Martin</i>							
13. Date Disposed M M D D Y Y 0 8 1 5 8 6						14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pcs G 2911TH 9 5			
15. Shaft Surface Dose mr/hr									
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER						Received KC	Logbook KC	Computer GJ	Verified SP
Signature <i>Keith Carter</i>						Date 8/15/86	Date 8/15/86	Date 8/15/86	Date 8/15/86
Form Number HSE 10-2A (3/86)									

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3571

Waste Management
LA-10-20 (3/88)

2. Date

M M D D Y Y
08/15/86

3. Retrievable Serial Number

001278

4. Origin of Waste

Group	TA	Building	Wing	Room
MSK-721				

5. Waste Code

A 76

6. Waste Description

TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
15	4

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T R S W D S 780 26 S

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	SS Materials Write-Off	
							Account	Project Code
PU 238	8.875	E	-2C		E	A		
PU 239	0.175	E	-1C		E	A		
AM 241	7.750	E	-1C		F	A		
AMP	5.180	E	-3C		E	A		
		E			F			
		E			E			

APPROVALS

signed @ 10:55 8/15/86

Waste Generator (Print Name Here)

Earl J. Cox

NSE-1/-10/-11 Area Representative (Print Name Here)

LONNIE E. MARTIN

Additional Signatures (Optional)

Earl J. Cox

Lonnie E. Martin

13. Date Disposed

M M D D Y Y
08/15/86

14. Disposal/Storage Location

Area	Shelf	Pit	Post(s)	Layer	Pos
G		219	11T	9	5

15. Shaft Surface Dose

mr/hr

NSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Received

KC

Logbook

KC

Computer

AS

Verified

SP

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature)

Keith Carter

Date

8/15/86

Date

8/15/86

Date

9/1/86

Date

9-15-86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3572		HSE-7 Waste Management Ext 5035 MS J592						
2. Date M M D D Y Y 08/15/86	3. Retrievable Serial Number 001279	4. Origin of Waste Group T/A Building Wing Room HSE-721		5. Waste Code A76				
6. Waste Description TRU cement paste OLD CMP TO TA-54								
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums Gal. Wooden Crates No Volume-ft ³ • • • • • • • •		8. Gross Volume Amount (M = meter ³ F = foot ³ G = gallon) 28 m ³		9. Package Radiation at face/hr 15 1 Meter (mr/hr) 4				
10. Gross Weight Amount (K = kilogram P = pound T = ton) 5.3 T		11. Additional Description of Packaging and Packaging Materials Area T RS WD S780266						
12. Radionuclide Content								
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount ±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
P U 238	8.875	E	-2C	•	E	A		
P U 239	8.175	E	-1C	•	E	A		
A M 241	9.750	E	41C	•	E	A		
M P A	5.180	E	-3C	•	E	A		
	•	E		•	E			
	•	E		•	E			
13. Date Disposed M M D D Y Y 08/15/86					14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 11TH29 S		15. Shaft Surface Dose mr/hr	
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER					Received KE		Logbook KE	
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter					Date 8/15/86		Verified 27	
Form Number HS 10-2A (3/86)					Date 8/15/86		Date 8/15/86	

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This form is to be used for the disposal of radioactive solid waste.

1. Form Number S 8 6 3573		2. Date M M D C Y Y 08 07 86		3. Retrievable Serial Number 001290		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76	
------------------------------	--	------------------------------------	--	---	--	--	--	--	--	-------------------------	--

8. Waste Description TRU cement paste-OLD CMP TO TP-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No	Gal	Wooden Crates No	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 M ³		50	10

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	Area T RS40 S780271									
63T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU238	1.929	E	-1C			A					
PU239	1.014	E	-1C			A					
AM241	3.673	E	-1C			A					
MP	3.771	E	-5C			A					
U81	1.714	E	-5M			E					
		E									

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-11/18-11 Area Representative (Print Name Here) William F. Romero	Additional Signatures (Optional)
Earl J. Cox by SM	William F. Romero	

13. Date Disposed M M D D Y Y 08 07 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 248 T9 9 S						15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER		Received 8/7/86	Logbook 8/7/86	Computer DS	Verified DS
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) Keith Carter		Date KC	Date KC	Date 8/1/86	Date 8/2/86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3574		HSE / Waste Management Ext 6095, MS J592	
2. Date M M D D Y Y 0 8 0 7 8 6	3. Retrievable Serial Number 0 0 1 2 9 1	4. Origin of Waste Group TA Building Wing Room HSE-721	
5. Waste Code A176			
6. Waste Description TRU Cement paste-OLD CMP TO TA 54			
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal. Wooden Crates No Volume-ft ³		8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 2.8 M	
		9. Package Radiation at Surface (mr/hr) 50.0 1 Meter (mr/hr) 10.0	
10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 53 T		11. Additional Description of Packaging and Packaging Materials A1769 T RSWD S780272	
12. Radionuclide Content			
SS Materials Write-Off			
Nuclide	Amount	±	(C = curie, M = gram)
Pu238	1.929	E-1	C
Pu239	1.014	E-1	C
Am241	3.675	E+1	C
NfD	3.774	E-3	C
U235	1.714	E+3	M
		E	
APPROVALS			
Waste Generator (Print Name Here) Earl J. Cox		HSE-1/-10/-11 Area Representative (Print Name Here) William F. Lumsden	
Earl J. Cox by JHM		William F. Lumsden	
13. Date Disposed M M D D Y Y 0 8 0 7 8 6			
14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 2A 81 T9 9 S			
15. Shaft Surface Desc mr/hr			
HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER			
Signature certifies that waste acceptance criteria and all disposal requirements were met (Signature) Keith Carter		Received KC Date 8/7/86	Logbook KC Date 8/7/86
		Computer R2 Date 8/1/86	Verified JH Date 8/1/86

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: This record is to be filled out by the waste generator or the waste management representative.

1. Form Number
S 8 6 3575

Field 1: 1/1/86
Field 2: 1/1/86

2. Date
M M D D Y Y
0 8 0 7 8 6

3. Retrievable Serial Number
0 0 1 2 9 2

4. Origin of Waste					
Group	TA	Building	Wing	Room	
HSE-721					

5. Waste Code
A 7 6

6. Waste Description											
TRU cement paste - OLD CMP TO TASY											

7. Numbers of Waste Packages					
Plastic Bags	Card-Board Boxes	Drums	Wooden Crates		
No	Gal	No	Volume-ft ³		

8. Gross Volume	
Amount	(M = meter ³ F = foot ³ G = gallon)
2.8 m ³	

9. Package Radiation at	
Surface (mr/hr)	1 Meter (mr/hr)
50	10

10. Gross Weight	
Amount	(K = kilogram P = pound L = ton)
54T	

11. Additional Description of Packaging and Packaging Materials											
Area T ASD 5780273											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)		Account	Project Code		
PU 238	1.9 2 9	E	-1 C		E	A					
PU 239	1.0 1 4	E	-1 C		E	A					
AM 241	3.6 7 3	E	-1 C		E	A					
MP	3.7 7 1	E	-3 C		E	A					
UR 1	1.7 1 4	E	-3 M		E	E					
		E			E						

Waste Generator (Print Name Here)		APPROVALS		14:45 8/7/86	
Earl J Cox		William F. Romo		Additional Signatures (Optional)	
Earl J. Cox by JM		William F. Romo			

13. Date Disposed
M M D D Y Y
0 8 0 7 8 6

14. Disposal/Storage Location					
Area	Shaft	Pit	Post(s)	Layer	Pos
G		29 8	TY	9	S

15. Shaft Surface Dose	
mr/hr	

NHL-7 Waste Management Representative (Print Name Here)				Received	Logbook	Computer	Verified
KEITH CARTER				NC	NC	NC	NC
Signature certifies that waste acceptance criteria and all disposal requirements were met				Date	Date	Date	Date
(Signature) Keith Carter				8/7/86	8/7/86	8/4/86	8/4/86
Time Number: 10:10:10							

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RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3576		HSE-7 Waste Management Ext. 6095, MS J592	
2. Date M M D D Y Y 08 08 86	3. Retrievable Serial Number 001293	4. Origin of Waste Group TA Building Wing Room HSE-721	
5. Waste Code A 76			
6. Waste Description TRU cement paste-OLD CMP TO TA-54			
7. Numbers of Waste Packages Plastic Bags Card-Board Boxes Drums No Gal Wooden Crates No Volume-ft ³		8. Gross Volume Amount (M = meter ³ , F = foot ³ , G = gallon) 248 M	
		9. Package Radiation at Surface (mr/hr) 1 Meter (mr/hr) 30 10	
10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 817	11. Additional Description of Packaging and Packaging Materials Area T RSWA S780274		
12. Radionuclide Content			
Nuclide	Amount	±	(C = curie, M = gram)
PU 238	1.92 E-1	C	
PU 239	1.014 E-1	C	
AM 241	3.673 E-3	C	
AF P	3.771 E-3	C	
U 81	1.714 E-4	C	
U 235		E	
APPROVALS			
Waste Generator (Print Name Here) Earl J Cox		HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Vigil	
Signature Earl J. Cox		Signature Joe A. Vigil	
13. Date Disposed M M D D Y Y 09 08 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Pos. G 217 1ST 5 C	
15. Shaft Surface Dose mr/hr			
HSE-7 Waste Management Representative (Print Name Here) Signature		Received AC Date 8-8-86	Logbook AC Date 8-8-86
Signature certifies that waste acceptance criteria and all disposal requirements were met.		Computer DB Date 8-8-86	Verified DB Date 8-8-86
Form Number HSE-10-2A (3/86)			

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number					U.S. Environmental Protection Agency Washington, D.C. 20460						
S 8 8 3577	2. Date		3. Retrieval Serial Number		4. Origin of Waste					5. Waste Code	
M M D D Y Y					Group		TA	Building	Wing	Room	
080786			001294		HSE-72V						A76

6. Waste Description									
TRU Cement Paste-OLD CMP TO TA-54									

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums		Wooden Crates		Amount	$\left(\begin{array}{l} M = \text{meter}^3 \\ F = \text{foot}^3 \\ G = \text{gallon} \end{array} \right)$	Surface (mr/hr)	1 Meter (mr/hr)
		No	Gal	No	Volume-ft ³				
1	1	1	1	1	1	2.8 M		80	13

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pound T = ton)		
		AC9 T RSWD 5780275	

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount			(C = curie M = gram)	Error on Amount			Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code	
PU238	1.9	29	E	-1C	•		E	A			
PU239	1.0	14	E	-1C	•		E	A			
AM241	3.6	73	E	4C	•		E	A			
NFP	3.7	71	E	-3C	•		E	A			
UP1	1.7	14	E	+3M	•		E	E			
	•		E		•		E				

Waste Generator (Print Name Here)	APPROVALS HSE-1/-10/-11 Area Representative (Print Name Here)	Received 11:00 8/7/86 Additional Signatures (Optional)
Eari J. Cox	WILLIAM F. ROMERO	
Paul G. Coby, Jr.	William F. Romero	

13. Date Disposed	14. Disposal/Storage Location	15. Shaft Surface Dose																										
<table border="1"> <tr> <td>M</td><td>M</td><td>D</td><td>D</td><td>Y</td><td>Y</td> </tr> <tr> <td>0</td><td>8</td><td>0</td><td>7</td><td>8</td><td>6</td> </tr> </table>	M	M	D	D	Y	Y	0	8	0	7	8	6	<table border="1"> <tr> <td>Area</td><td>Shaft</td><td>Pit</td><td>Post(s)</td><td>Layer</td><td>Pos</td> </tr> <tr> <td>G</td><td></td><td>299</td><td>T109</td><td></td><td>5</td> </tr> </table>	Area	Shaft	Pit	Post(s)	Layer	Pos	G		299	T109		5	<table border="1"> <tr> <td>mr/hr</td> </tr> <tr> <td></td> </tr> </table>	mr/hr	
M	M	D	D	Y	Y																							
0	8	0	7	8	6																							
Area	Shaft	Pit	Post(s)	Layer	Pos																							
G		299	T109		5																							
mr/hr																												

HSE-7 Waste Management Representative (Print Name Here) KEITH CARTER	Received Ke	Logbook Ke	Computer Ke	Verified Ke
Signature certifies that waste acceptance criteria and all disposal requirements are met (Signature) Keith Carter	Date 8/7/06	Date 8/7/06	Date 8/3/06	Date 8/24/06

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Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3578

HSE-7 Waste Management
Ext. 6095 MS J592

2. Date

M M D D Y Y

0 8 0 7 8 6

3. Retrievable

Serial Number

0 0 1 2 9 5

4. Origin of Waste

Group	TA	Building	Wing	Room
HSE-721				

5. Waste Code

4 7 6

6. Waste Description

TRU cement paste-OLD CMP TP TP-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³

8. Gross Volume

Amount	(M = meter ³ F = foot ³ G = gallon)
208 m ³	

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
80	13

10. Gross Weight

Amount	(K = kilogram P = pound T = ton)
65T	

11. Additional Description of Packaging and Packaging Materials

Area TRSUWD 5780276

12. Radionuclide Content

Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code
PU 238	1.9 2 7	E	-1C		E	A		
PU 239	1.0 1 4	E	-1C		E	A		
AM 24	1 3 6 7 3	E	H/C		E	A		
NP P	3 7 7 1	E	-3C		E	A		
U 81	1 7 1 4	E	-3A		E	E		
		E			E			

APPROVALS Received 11:00 8/7/86

Waste Generator (Print Name Here)

Earl J. Cox

HSE-7/10/11 Area Representative (Print Name Here)

William F. Romero

Additional Signatures (Optional)

Earl J. Cox by JM

William F. Romero

13. Date Disposed

M M D D Y Y
0 8 0 7 8 6

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	9	T/10	9

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

KEITH CARTER

Signature certifies that waste acceptance criteria and all disposal requirements were met

(Signature) Keith Carter

Received

KC

Date

8/7/86

Logbook

KC

Date

8/7/86

Computer

02

Date

8/7/86

Verified

05

Date

8/7/86

Form Number HSE-7A (3/85)

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number 3579		2. Date M M D D Y Y 08/14/86		3. Retrieval Serial Number 0C1296		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A76							
6. Waste Description TRU cement paste OLD CMP TO TA-54																	
7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at									
Plastic Bags		Card-Board Boxes		Drums No Gal		Wooden Crates No Volume-ft ³		Amount		Surface (mr/hr)		1 Meter (mr/hr)					
								2.8 m ³		5		1					
10. Gross Weight				11. Additional Description of Packaging and Packaging Materials													
Amount (K = kilogram, P = pound, T = ton)				Area T PSWD S780277													
S10T																	
12. Radionuclide Content										SS Materials Write-Off							
Nuclide		Amount		±		(C = curie, M = gram)		Error on Amount		±		Amount Determined By (A = analysis, M = measurement, E = estimate)		Account		Project Code	
PU 238		1.929		E-1C						E		A					
PU 239		1.014		E-1C						E		A					
AM 241		3.673		E-H/C						E		A					
MFP		3.771		E-B/C						E		A					
UB1		1.714		E-13A						E		E					
				E						E							
APPROVALS																	
Waste Generator (Print Name Here) Earl J. Cox						HSE-7/-10/-11 Area Representative (Print Name Here) LORRIE E. MARTIN						Additional Signatures (Optional)					
Earl J. Cox by JM						Lorrie E. Martin											
13. Date Disposed M M D D Y Y 08/14/86				14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos G 29 11T 9S						15. Shaft Surface Dose mr/hr							
HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR										Received mg		Logbook 29		Computer R2		Verified AP	
Signature certifies that waste acceptance criteria and all disposal requirements were met. (Signature) <i>E. Salazar</i>										Date 8/14/86		Date 8/14/86		Date 9/15/86		Date 9/15/86	

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number S 8 6 3580		3. Retrieval Serial Number ☒ 001297		4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A76
2. Date M M D Y Y 08/14/86						

6. Waste Description TRU Cement Paste OLD CMP TO TA-54
--

7. Numbers of Waste Packages		8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No Gal	Wooden Crates No Volume-ft ³	Amount (M = meter ³ , F = foot ³ , G = gallon)	Surface (mr/hr) 1 Meter (mr/hr)
				2.8 m³	5 1

10. Gross Weight Amount (K = kilogram, P = pound, T = ton) 53T	11. Additional Description of Packaging and Packaging Materials Area T RESKID S780282
---	---

12. Radionuclide Content							SS Materials Write-Off	
Nuclide	Amount	±	(C = curie, M = gram)	Error on Amount	±	Amount Determined By (A = analysis, M = measurement, E = estimate)	Account	Project Code
Pu 238	7.286	E	-2C		E	A		
Pu 239	5571	E	-2C		E	A		
Am 241	3569	E	+1C		E	A		
Am FP	7.214	E	-3C		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-17/18/11 Area Representative (Print Name Here) LONNIE E. MARTIN	Additional Signatures (Optional)
Earl J. Cox by JM	Lonnice E. Martin	

13. Date Disposed M M D Y Y 08/14/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 29 1 OT 95	15. Shaft Surface Dose mr/hr 5
---	---	---

HSE-7 Waste Management Representative (Print Name Here) EUGENE C. SALAZAR	Received 29	Logbook 29	Conductor 29	Verifying 29
Signature certifies that waste acceptance criteria and all disposal requirements were met. Eugene C. Salazar	Date 8/14/86	Date 8/14/86	Date 8/14/86	Date 8/14/86

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number																													
S 8 6 3581																													
2. Date					3. Retrieval Serial Number					4. Origin of Waste										5. Waste Code									
M M D D Y Y										Group					TA		Building			Wing		Room							
080886					001298					HSE-721															A 76				

6. Waste Description

TRU cement paste - OLD CMP TP TA-54

7. Number of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card Board Boxes	Drums		Wooden Crates		Amount	M = meter ³ F = foot ³ G = gallon	Surface (mr/hr)	1 Meter (mr/hr)
		No.	Gal.	No.	Volume-ft ³				
•	•	•	•	•	•	•		30*	10*

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials	
Amount	(K = kilogram P = pound T = ton)		
6		A1 e a T R S W D S 7 8 0 2 8 3	
5.6 T			

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curve M = gram)	Error on Amount	±	Amount Determined By (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	7.286	E	-2C	♦	E	A					
PU 239	5.571	E	-2C	♦	E	A					
AM 241	3.569	E	+1C	♦	E	A					
MP	7.214	E	-5C	♦	E	A					
	♦	E		♦	E						
	♦	E		♦	E						

APPROVALS		
Waste Generator (Print Name Here)	HSR-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	Joe A. Vigil	
Earl J. Cox by J.M.	Joe A. Vigil	

13. Date Disposed							14. Disposal/Storage Location						15. Shaft Surface Dose	
M	M	D	D	Y	Y	Area	Shaft	Pit	Post(s)	Layer	Pos	mr. hr		

100-7 Waste Management Request (Print Name Here) 		Received AC	Logbook AC	Computer RT	Verified S.O.
Signature certifies that waste acceptance criteria and disposal requirements were met. (City Seal)		Date 8-8-86	Date 8-8-86	Date 8/13/86	Date 8/24/86

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

1. Form Number

S 8 6 3582

Waste Management

LA-1040 MS-10-1

2. Date

M M D D Y Y

08/14/86

3. Retrievable

Serial Number

001299

4. Origin of Waste

Group

TA

Building

Wing

Room

HSE-721

5. Waste

Code

A76

6. Waste Description

TRU Cement Paste OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card-Board Boxes	Drums		Wooden Crates	
		No	Gal	No	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon
2.8	M

9. Package Radiation at

Surface (mr/hr)	1 Meter (mr/hr)
5	1

10. Gross Weight

Amount	K = kilogram P = pound T = ton
56	T

11. Additional Description of Packaging and Packaging Material

Area T RS WD 5780284

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By: A = analysis M = measurement E = estimate	SS Materials Write-Off	
							Account	Project Code
PU238	7.2	±6	E-2C			A		
PU238	9.5	±5	E-2C			A		
AM241	13.5	±6	E-1C			A		
MFP	7.2	±4	E-3C			A		

APPROVALS

Waste Generator (Print Name Here)	Waste Management Representative (Print Name Here)	Additional Signatures (Optional)
Earl J Cox	Lennie E Martin	
Earl J. Cox by JM	Lennie E Martin	

13. Date

Disposed

08/14/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		29	VIT	19	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

EUGENE C. SALAS

Received

7/28

Logbook

29

Computer

29

Verified

29

Date

8/14/86

Date

8/14/86

Date

8/14/86

Date

8-15-86

(Signature)

Eugene C. Salas

Form Number MS-10-1A (2/86)

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS-1592

1. Form Number S B 6 3583		2. Date M M D D Y Y 08 08 86		3. Retrieval Serial Number 003301		4. Origin of Waste Group TA Building Wing Room 45E-7 21				5. Waste Code A76	
------------------------------	--	------------------------------------	--	--------------------------------------	--	---	--	--	--	----------------------	--

6. Waste Description TRU Cement Paste-OLD CMP TO TO-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						28 M		40	10

10. Gross Weight Amount (K = kilogram P = pound T = ton) 53T		11. Additional Description of Packaging and Packaging Materials Area T R S W D S 7 8 0 2 8 5									
--	--	---	--	--	--	--	--	--	--	--	--

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU 238	74286	E-2C				A					
PU 239	5571	E-2C				A					
AM 241	3569	E-H1C				A					
MFP	74214	E-3C				A					
		E									
		E									

APPROVALS	
Waste Generator (Print Name Here) Earl J. Cox	HSE-7-10/-11 Area Representative (Print Name Here) Joe A. Vigil
Signature certifies that waste is in accordance with all applicable disposal requirements. Earl J. Cox	Signature certifies that waste package or shipment is safe to handle and transport. Joe A. Vigil

13. Date Disposed M M D D Y Y 08 08 86		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 219 18T 110 S					15. Shaft Surface Dose mr/hr	
--	--	---	--	--	--	--	---------------------------------	--

HSE-7 Waste Management Representative (Print Name Here) Signature certifies that waste acceptance criteria and all disposal requirements were met.		Received Date 8-8-86	Logbook Date 8-8-86	Computer Date 8-8-86	Verified Date 8-8-86
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7-2377

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number S 8 6 3584		2. Date M M D D Y Y 0 8 0 8 8 6		3. Retrieval Serial Number 003302		4. Origin of Waste Group TA Building Wing Room HSE-721				5. Waste Code A-76	
------------------------------	--	---------------------------------------	--	---	--	--	--	--	--	-----------------------	--

6. Waste Description TRU Cement A454e-OLD CMP TO TA-54											
---	--	--	--	--	--	--	--	--	--	--	--

7. Numbers of Waste Packages						8. Gross Volume		9. Package Radiation at	
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						2.8 m ³		40	10

10. Gross Weight		11. Additional Description of Packaging and Packaging Materials									
Amount	(K = kilogram P = pound T = ton)	A-129 T ASWD 5780286									
6.5 T											

12. Radionuclide Content										SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = millicurie)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code			
PU-238	742.86	E	-2C								
PU-239	545.71	E	-2C								
AM-241	1345.68	E	-1C								
NFP	742.14	E	-3C								
		E									
		E									

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox		HSE-7-10/11 Area Representative (Print Name Here) Joe A. K. Gil		Additional Signatures (Optional)	
Signature certifies that waste is in accordance with applicable disposal requirements. Earl J. Cox		Signature certifies that waste package or shipping is safe to handle and transport. Joe A. K. Gil			

13. Date Disposed M M D D Y Y 0 8 1 0 8 8 6		14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. G 1 219 18T 110 S						15. Shaft Surface Area m ² /hr	
---	--	---	--	--	--	--	--	--	--

HSE-7 Waste Management Representative (Print Name Here) Andrew C. ...		Received		Lost		Returned	
Signature certifies that waste acceptance and all disposal requirements were met.							

7-2378

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

HSE-7 Waste Management
Ext. 6095, MS J592

1. Form Number
S 8 6 3585

2. Date
M M D D Y Y
08/14/86

3. Radionucleide
Serial Number V
003303

4. Origin of Waste
Group TA Building Wing Room
HSE-7 21

5. Waste
Code
A 76

6. Waste Description

TRU CEMENT PASTE OLD CMP TO TA-54

7. Numbers of Waste Packages

Plastic Bags	Card- Board Boxes	Drums		Wooden Crates	
		No.	Gal.	No.	Volume-ft ³

8. Gross Volume

Amount	M = meter ³ F = foot ³ G = gallon

9. Package Radiation of

Surface (mr/hr)	1 Meter (mr/hr)
4	1/5

10. Gross Weight

Amount	K = kilogram P = pound T = ton

11. Additional Description of Packaging and Packaging Materials

Area T RSWD S780287

12. Radionuclide Content

Nuclide	Amount	±	C = curie M = gram	Error on Amount	±	Amount Determined By: A = analysis M = measurement E = estimate	SS Materials Write-Off	
							Account	Project Code
PU 238	7.286	E	20		E	A		
PU 239	5.571	E	20		E	A		
AM 241	3.569	E	40		E	A		
NPP	7.214	E	30		E	A		
		E			E			
		E			E			

APPROVALS

Waste Generator (Print Name Here)	HSE-1/-10/-11 Area Representative (Print Name Here)	Additional Signatures (Optional)
Earl J. Cox	LONNIE E. MARTIN	
Signature certifies that waste is in accordance with all applicable disposal requirements.	Signature certifies that waste package or shipment is safe to handle and transport.	
Earl J. Cox by JM	Lonnice Martin	

13. Date Disposed

M M D D Y Y
08/14/86

14. Disposal/Storage Location

Area	Shaft	Pit	Post(s)	Layer	Pos.
G		219	11T	48	5

15. Shaft Surface Dose

mr/hr

HSE-7 Waste Management Representative (Print Name Here)

ROBERT C. SALAZAR

Received

LL

Logbook

29

Operator

QD

Warding

87

Signature certifies that waste is in accordance with all applicable disposal requirements were met.

Date

8/14/86

Date

8/14/86

Date

8/14/86

Date

8/14/86

7-2379

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

RADIOACTIVE SOLID WASTE DISPOSAL RECORD

NOTE: Read instructions on back carefully before completing this form.

1. Form Number S 8 6 3586		HSE-7 Waste Management Ext. 6095, MS J592		
2. Date M M D D Y Y 08/15/86	3. Retrieval Serial Number 0103304	4. Origin of Waste Group TA Building Wing Room HSE-721		5. Waste Code A76

6. Waste Description TRU cement paste OLD CMP TO TA-54

7. Numbers of Waste Packages				8. Gross Volume		9. Package Radiation at			
Plastic Bags	Card-Board Boxes	Drums No.	Gal.	Wooden Crates No.	Volume-ft ³	Amount	(M = meter ³ F = foot ³ G = gallon)	Surface (mr/hr)	1 Meter (mr/hr)
						298		5	0

10. Gross Weight Amount (K = kilogram P = pound T = ton) 55 T	11. Additional Description of Packaging and Packaging Materials AFTER TRU WASTE 5780288
---	--

12. Radionuclide Content								SS Materials Write-Off	
Nuclide	Amount	±	(C = curie M = gram)	Error on Amount	±	Amount Determined By: (A = analysis M = measurement E = estimate)	Account	Project Code	
PU2387286	E-12C								
PU2395571	E-12C								
AM2413569	E-11C								
NAP	7214	E-13C							
		E							
		E							

APPROVALS

Waste Generator (Print Name Here) Earl J. Cox	HSE-1/-10/-11 Area Representative (Print Name Here) Joe A. Kigil	Additional Signatures (Optional)
Signature certifies that waste is in accordance with all applicable disposal requirements. Earl J. Cox by gm	Signature certifies that waste package or shipment is safe to handle and transport. Joe A. Kigil	

13. Date Disposed M M D D Y Y 08/15/86	14. Disposal/Storage Location Area Shaft Pit Post(s) Layer Pos. 6 29 12 T 9 S	15. Heat Surface Dose m/hr
--	---	-------------------------------

HSE-7 Waste Management Representative (Print Name Here) MARVIN TILLEY	Received MY	Logbook LH	Disposal D	Verification V
Signature certifies that waste acceptance criteria and all disposal requirements were met. MARVIN TILLEY	Date 8/15/86	Time 1:30	Initials D	Initials V

Appendix C

Monthly Summaries of Contaminated Waste Solids to Disposal Pits and CMPs

**July 1976 to June 1977
January 1978 to September 1978**

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To: H-7 Files

Thru: J. R. Buchholz; L. A. Emelity, and T. R. Keenan, H-7

From: Paul E. McGinnis, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: 10/13/76

Symbol: H7-76-503

JUN 22 1993

JULY

19 76

From TA-50-1 to Mesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CMP

Type of Waste Solids	No. of Drums	Vol. of Waste (Liters)	238 ^{Pu} (mg)	239 ^{Pu} (mg)	Equiv. 239 ^{Pu} (mg)
Plant Sludge	65	12126	14.2	619	4.7
Frit	0	-	-	-	-
Crutium Vials	0	-	-	-	-
Miscellaneous	1	9	-	-	-
Total	66	12135	14.2	619	4.7

NOTES

- 1) Includes 241 Am
- 2) Water used to clean sight glass
- 3) R - indicates feed solutions used to generate Retrievable Paste
F - indicates feed solutions used to generate non-retrievable paste as the final portion of the Pug Mill Run.
- 4) All drums sent to TA-54 this period were 200 liter fiber units and contained wastes with non-retrievable levels of TRU and 238Pu.
- 5) Number reported is based on CMB-11 analysis. H-7 analysis of feed solutions indicate 33.7 grams 241Am present.

Type of Waste in Pug Mill Feed Solution	390R	390F	391R	391F	392	393	Total
Plant Sludge	-	1404	-	1630	3147	1607	7788
Neutralized Americium	4828	-	4933	-	-	-	9761
Treated Strip	-	-	-	-	-	-	-
Raw KOH	-	-	-	-	3154	1611	4765
Sight Glass Rinse Water	110	276	144	439	2297	193	3459
Miscellaneous	-	-	-	-	473	347	820
Total Vol. Feed Solutions	4938	1680	5077	2069	9071	3758	26593

GRAND Total Feed Solutions (liters)	26593	
GRAND Total Cement Paste	34467	
	SHAFTS	CHP
Total Milligrams ²³⁸ Pu in Feed Solution	5.4	14.1
Total Grams ²³⁹ Pu in Feed Solution	5.9	33.3
Total Grams ²⁴¹ Am in Feed Solution	.2	20.2 (5)
Total Equivalent Grams ²³⁹ Pu in Feed Solution ^a	17.4	1047
Total mCi β-γ activity in Feed Solution	6.6	10.73
Designation of Pit(s) Receiving Cement Paste	82 & 84	
I.D. Nos. of CHP receiving Cement Paste	1179, 1180, 1181, 1182, 1183 1184, 1185, 1186	
Miscellaneous Drums of Waste Sent to Area "G", TA-54	0	
²³⁸ Pu ²³⁹ Pu ²⁴¹ Am expressed as ²³⁹ Pu. Actual H-7 Lab analysis of		
Feed Solutions Indicate a total of 14/1288	equivalent grams of ²³⁹ Pu	

cc: John Warren, H-7
John Enders, H-7

to: H-7 Files
 from: J. R. Buchholz; L. A. Emery, and T. K. Keenan, H-7 JRE
 from: Paul E. McGinnis, Liquid Waste Engr. Section J.E.M.
 subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 date: November 8, 1976
 label: H7-76-533

AUGUST

1976

JUN 22 1993

From TA-50-1 to Masita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CHP

Type of Solids	No. of Drums (4)	Vol. of Waste (Liters)	238 Pu (mg)	239 Pu (mg)	Equiv. 239 Pu (grams)
Plant Sludge	56	10,604	10.6	474	3.6
Neutralized Americium	--	--	--	--	--
Treated Strip	1	7	--	--	--
Raw KOH	--	--	--	--	--
Sight Glass Rinse Water (4)	--	--	--	--	--
Miscellaneous	57	10,611	10.6	474	3.6
Total					

Type of Waste in Pug Mill Feed Solution	394R	394F	Pug Mill Run Number (3)	Total
Plant Sludge	--	1519		1519
Neutralized Americium	5103	--		5103
Treated Strip	--	--		--
Raw KOH	--	--		--
Sight Glass Rinse Water (4)	79	159		238
Miscellaneous	88	--		88
Total Vol. Feed Solutions	5275	1678		6953

NOTES

Includes 241 Am
 Water used to clean sight glass
 R - indicates feed solutions used to generate Retrievable Paste
 F - indicates feed solutions used to generate nonretrievable paste as the final portion of the Pug Mill Run.
 All drums sent to TA-54 this period were 200 liter fiber units and contained wastes with nonretrievable levels of TRU and 239Pu.
 Number Reported is based on CHB-11 analysis.
 There was no H-7 analysis of this feed solution.
 Estimated.

GRAND Total Feed Solutions (Liters)		6953	
GRAND Total Cement Paste		9678	
		SHAFTS	CHP
Total Milligrams ²³⁸ Pu in Feed Solution		.3	8 (6)
Total Grams ²³⁹ Pu in Feed Solution		.5	17 (6)
Total Grams ²⁴¹ Am in Feed Solution		.08	14.68 (5)
Total Equivalent Grams ²³⁹ Pu in Feed Solution ^a		.6	753 (6)
Total mCi B-Y activity in Feed Solution		.99	7 (6)
Designation of Pit(s) Receiving Cement Paste		82	
I.D. Nos. of CHP receiving Cement Paste		1186, 1187, 1188, 1189	
Miscellaneous Drums of Waste Sent to Area "G", TA-54		0	
²³⁸ Pu	²³⁹ Pu	²⁴¹ Am expressed as ²³⁹ Pu.	Actual H-7 Lab analysis of
Feed Solutions Indicate a total of 5.1/H.D. equivalent grams of ²³⁹ Pu based on gross α.			

by: John Warren, H-7
 Date: February 1977

H7-76-533

To: H-7 Files

Thru:

From:

Subject:

Date:

Symbol:

J. R. Buchholz; L. A. Emery, and T. K. Keenan, H-7
Paul E. McGinnis, Liquid Waste Engr. Section *Y.E.M.-JRB*

SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

September

JUN 22 1993

1976

From TA-50-1 to Hesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CHP

Type of Waste Solids	No. of Drums (4)	Vol. of Waste (Liters)	238Pu (mg)	239Pu (mg)	Equiv. 239Pu (grams)
Plant Sludge	66	12,410	9.3	443	3.2
Grit	--	--	--	--	--
Plutonium Vials	5	170			
Miscellaneous	--	--	--	--	--
Total	71	12,580	9.3	443	3.2

NOTES

- Includes ²⁴¹Am
- Water used to clean sight glass
- R - indicates feed solutions used to generate Retrievable Paste
- F - indicates feed solutions used to generate nonretrievable paste as the final portion of the Pug Mill Run.
- All drums sent to TA-54 this period were 200 liter fiber units and contained wastes with nonretrievable levels of TRU and 238Pu.

Type of Waste in Pug Mill Feed Solution	Volume (liters)	Pug Mill Run Number (3)	Total
Plant Sludge			
Neutralized Ammonium			
Treated Strip			
Raw KOH			
Sight Glass			
Miscellaneous			
Total Vol. Feed Solut.			

GRAND Total Feed Solutions			
GRAND Total Cement Paste			
Total Milligrams ²³⁸ Pu in Feed Solut.			
Total Grams ²³⁹ Pu in Feed Solution			
Total Grams ²⁴¹ Am in Feed Solution			
Total Equivalent Grams ²³⁹ Pu in Feed Solution*			
Total mCi B-Y activity in Feed Solution			
Designation of Pit(s) Receiving Cement Paste			
I.D. Nos. of CHP receiving Cement Paste			
Miscellaneous Drums of Waste Sent to Area "G", TA-54			
* ²³⁸ Pu ²³⁹ Pu ²⁴¹ Am expressed as ²³⁹ Pu. Actual H-7 Lab analysis of Feed Solutions indicate a total of equivalent grams of ²³⁹ Pu			

NO PUG MILL RUNS WERE MADE

To: H-7 Files *gfb*
 Thru: J. R. Buchholz, L. A. Emelity, and T. K. Keenan H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section *P.E.M.*
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: December 22, 1976
 Symbol: H7-76-589

JUN 22 1993

OCTOBER

1976

From TA-50-1 to Mesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CHP

Type of Waste Solids	No. of Drums (4)	Vol. of Waste (liters)	238 ^{pu} (mg)	239 ^{pu} (mg)	Equiv. 239 ^{pu} (grams)
Plant Sludge	38	7182	14	457	4.6
Neutralized Americium	--	--	--	--	--
Treated Strip	--	--	--	--	--
Raw KOH	--	--	--	--	--
Sight Glass Rinse Water (2)	--	--	--	--	--
Miscellaneous	--	--	--	--	--
Total	38	7182	14	457	4.6

Type of Waste in Pug Mill Feed Solution	395R	395F	395R	395F	Pug Mill Run Number (3)	Total
Plant Sludge	--	--	--	--	--	--
Neutralized Americium	5144	--	5126	--	--	10270
Treated Strip	--	--	--	--	--	--
Raw KOH	--	1243	--	1455	--	2698
Sight Glass Rinse Water (2)	183	38	76	333	--	630
Miscellaneous	--	--	44	--	--	44
Total Vol. Feed Solutions	5327	1281	5246	1788	--	13642

NOTES

Includes 241 Am (1 g 241Am = ~52 g 239Pu)
 Water used to clean sight glass
 B - Indicates feed solutions used to generate Retrievable Paste
 F - Indicates feed solutions used to generate nonretrievable paste to flush the discharge hose as the final portion of the pug mill run
 All drums sent to TA-54 this period were 200-liter fiber units and contained nonretrievable concentrations of TRU.
 Based on CPM-11 analysis. H-7 analysis indicates the presence of 62.5 g of 241Am in feed solutions.

GRAND Total Feed Solutions (liters)	13642
GRAND Total Cement Paste	18596
Total Milligrams 238 ^{pu} in Feed Solution	.3
Total Grams 239 ^{pu} in Feed Solution	.1
Total Grams 241 ^{Am} in Feed Solution	.07
Total Equivalent Grams 239 ^{pu} in Feed Solution*	3.7
Total mCi B-Y activity in Feed Solution	1.1
Designation of Pit(s) Receiving Cement Paste	82
I.D. Nos. of CHP receiving Cement Paste	1189, 1190, 1191, 1192, 1193, 1194, 1195
Miscellaneous Drums of Waste Sent to Area "G", TA-54	0
238 ^{pu} 239 ^{pu} 241 ^{Am} expressed as 239 ^{pu} . Actual H-7 Lab analysis of Feed Solutions indicate a total of 3.2/2995 equivalent grams of 239 ^{pu} based on Grossa. (1 gram 241Am = ~50 grams 239 ^{pu})	

c: John Warren, H-7

Reviewed by CR-105
 JUN 22 1993
 H-7

To: H-7 Files
 Thru: J. R. Buchholz; L. A. Ebelity, and T. K. Keenan, H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section PLM
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: December 22, 1976
 Symbol: H7-76-590

NOVEMBER 1976

Page 1 of 2

From TA-50-1 to Mesita del Buey (TA-54)						From TA-21-257 to Area T Shafts and CHP						
Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238 Pu (mg)	239 Pu (mg)	Equiv. 239 Pu (mg)	Type of Waste in Pug Mill Feed Solution	Volume (liters)				Total	
Plant Sludge						Plant Sludge	397R	397F	398	399R	399F	Totals on next page
Plant Sludge						Plant Sludge	--	--	1421	--	--	
Plant Sludge						Plant Sludge	4459	--	--	4828	--	
Plant Sludge						Plant Sludge	--	--	2654	--	--	
Plant Sludge						Plant Sludge	--	786	1174	--	1061	
Plant Sludge						Plant Sludge	325	455	307	110	144	
Plant Sludge						Plant Sludge	--	--	--	--	--	
Plant Sludge						Plant Sludge	4784	1241	5556	4938	1205	
GRAND Total Feed Solutions (liters)						GRAND Total Feed Solutions (liters)						
GRAND Total Cement Paste						GRAND Total Cement Paste						
Total Hilligrams 238 Pu in Feed Solution						Total Hilligrams 238 Pu in Feed Solution						
Total Grams 239 Pu in Feed Solution						Total Grams 239 Pu in Feed Solution						
Total Grams 241 Am in Feed Solution						Total Grams 241 Am in Feed Solution						
Total Equivalent Grams 239						Total Equivalent Grams 239						
Total mCi B-Y						Total mCi B-Y						
Designation of Cement Paste						Designation of Cement Paste						
I.D. Nos. of CH						I.D. Nos. of CH						
Miscellaneous Dr. of Waste Sent to Area "G", TA-54						Miscellaneous Dr. of Waste Sent to Area "G", TA-54						
238 Pu 239 Pu 241 Am expressed as 239 Pu. Actual H-7 Lab analysis of						238 Pu 239 Pu 241 Am expressed as 239 Pu. Actual H-7 Lab analysis of						
Feed Solutions Indicate a total of equivalent grams of 239 Pu						Feed Solutions Indicate a total of equivalent grams of 239 Pu						

SEE NEXT PAGE

NO NEXT PAGE

TOTALS

xc: John Warren, H-7
 John Enders, H-7

H7-ENG-13

To: H-7 Files *PPB*
 Thru: J. R. Buchholz; L. A. Emmons, and T. K. Keenan, H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section *PE.M.*
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: December 22, 1976
 Symbol: H7-76-590

NOVEMBER (continued) 19 76

Page 2 of 2

From IA-50-1 to Mesita del Buey (IA-54)						From IA-21-257 to Area T Shafts and CMP					
Type of Waste Solids	No. of Drums (4)	Vol. of Waste (liters)	238Pu (mg)	239Pu (mg)	Equiv. 239Pu Comp. grams	Type of Waste in Pug Mill Feed Solution	400R	400F	Pug Mill Run Number (3)	Total	
Plant Sludge	32	6048	13	333	4.1	Plant Sludge	--	--		1421	
Grit	--	--	--	--	--	Neutralized Americium	5068	--		14355	
Tritium Vials	--	--	--	--	--	Treated Strip	--	--		2654	
Miscellaneous	1	18	--	--	--	Raw KOH	--	1414		4435	
Total	33	6066	13	333	4.1	Sight Glass Rinse Water (2)	72	337		1750	
						Miscellaneous	76	--		76	
						Total Vol. Feed Solutions	5216	1751		24691	
NOTES						GRAND Total Feed Solutions (liters) 24691					
(1) Includes 241Am (1 g 241Am = ~52 g 239Pu)						GRAND Total Cement Paste 35494					
(2) Water used to clean sight glass						Total Milligrams 238Pu in Feed Solution 1.8 509					
(3) R - indicates feed solutions used to generate Retrievable Paste						Total Grams 239Pu in Feed Solution 1.1 96					
F - indicates feed solutions used to generate nonretrievable paste to flush the discharge hose as the final portion of the pug mill run.						Total Grams 241Am in Feed Solution .21 30.5 (5)					
(4) All drums sent to IA-54 this period from IA-50 were 200-2 fiber units containing nonretrievable concentrations of TRU.						Total Equivalent Grams 239Pu in Feed Solution* 12.1 1765					
						Total mCi B-Y activity in Feed Solution 29.3 8.8					
						Designation of Pit(s) Receiving Cement Paste 32					
						I.D. Nos. of CMP receiving Cement Paste 1195, 1190, 1197, 1199, 1200, 1201, 1202, 1203, 1204, 1198					
						Miscellaneous Drums of Waste Sent to Area "G", TA-54 9 (6)					
						238Pu 239Pu 241Am expressed as 239Pu. Actual H-7 Lab analysis of 239Pu					
						Feed Solutions Indicate a total of 10.7/2215 equivalent grams of 239Pu based on gross α. (1 gram 241Am = ~50 grams 239Pu)					

NOTES

- (1) Includes 241Am (1 g 241Am = ~52 g 239Pu)
- (2) Water used to clean sight glass
- (3) R - indicates feed solutions used to generate Retrievable Paste
 F - indicates feed solutions used to generate nonretrievable paste to flush the discharge hose as the final portion of the pug mill run.
- (4) All drums sent to IA-54 this period from IA-50 were 200-l fiber units containing nonretrievable concentrations of TRU.
- (5) Based on CMP-11 analysis. H-7 analysis indicate the presence of 39.2 g of 241Am in the feed solutions.
- (6) Retrieval of cement paste and dirt.

cc: John Warren, H-7

To: H-7 Files *gdb*
 Thru: J. R. Buchholz; L. A. Emely *gdb* and T. K. Keenan, H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section *ELM*.
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: 1/6/77
 Symbol: H7-77-13

RECEIVED BY GR-10F
 JUN 22 1993
gdb

December 15 76

From TA-50-1 to Mesita del Buey (TA-54)				
Type of Solids	No. of Drums (4)	Vol. of Waste (liters)	238 Pu (mg)	239 Pu (mg)
Plant Sludge	37	6993	11	353
Water	--	--	--	--
Acetic Acid	5	233	--	--
Miscellaneous	--	--	--	--
Total	42	7226	11	353
				3.6

NOTES

- 1) Includes ²⁴¹Am (where 1 g = 52 q ²³⁹Pu)
- 2) Water used to clean sight glass
- 3) R - indicates feed solutions used to generate Retrievable Paste
- F - indicates feed solutions used to generate nonretrievable paste to flush the discharge hose as the final portion of the pug mill run.

- 1) All drums sent to TA-54 this period were 200-2 fiber units containing nonretriev. conc./TRU.
- 2) Based on CMB-11 Analysis. H-7 Analysis indicate presence of 17.0 g of ²⁴¹Am in feed sol.
- 3) Approx. 56% of paste in PWR 402 (Ret. Port) taken out of the CMP.

s.c. John Warren, H-7

From TA-21-257 to Area T Shafts and CMP						
Type of Waste in Pug Mill Feed Solution	Volume (liters)					
	401R	401F	402R	402F	Run Number (3)	
Plant Sludge	--	1075	--	--		1075
Neutralized Americium	4828	--	4836	--		9664
Treated Strip	--	--	--	--		--
Raw KOH	--	1449	--	1060		2609
Sight Glass Rinse Water (2)	110	984	182	518		1794
Miscellaneous			45			45
Total Vol. Feed Solutions	4938	3508	5063	1578		15087

GRAND Total Feed Solutions (liters)	15087 (6)
GRAND Total Cement Paste	20148 (6)
SHAFTS	
Total Milligrams ²³⁸ Pu in Feed Solution	1.3
Total Grams ²³⁹ Pu in Feed Solution	5.1
Total Grams ²⁴¹ Am in Feed Solution	.04
Total Equivalent Grams ²³⁹ Pu in Feed Solution*	7
Total mCi β-γ activity in Feed Solution	.8
Designation of Pit(s) Receiving Cement Paste	
82	
I.D. Nos. of CMP receiving Cement Paste	
1203, 1205, 1206, 1207, 1208, 1209, 1210, TA-54	
Miscellaneous Drums of Waste Sent to Area "G", TA-54	
0	
* ²³⁸ Pu, ²³⁹ Pu, ²⁴¹ Am expressed as ²³⁹ Pu. Actual H-7 Lab analysis of Feed Solutions indicate a total of 5/857 equivalent grams of ²³⁹ Pu based on gross α. (1 g ²⁴¹ Am = ~50 g ²³⁹ Pu).	

To: H-7 Files

Thru: J. R. Buchholz; L. A. Emelity, and T. K. Keenan, H-7

From: Paul E. McGinnis, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: March 11, 1977

Symbol: H7-77-92

JUN 22 1993

January

19 77

From TA-50-1 to Mesita del Buey (TA-54)

Type of Waste Solids	No. of Drums (4)	Vol. of Waste (Liters)	238 Pu (mg)	239 Pu (mg)	Equiv. 239 Pu (mg)
Plant Sludge	34	6070	10	276	3.3
Pit (5)	1	200	--	--	--
Pitium Vials	--	--	--	--	--
Miscellaneous	1	40	--	--	--
Total	36	6310	10	276	3.3

NOTES

- 1) Includes 241 Am
- 2) Water used to clean sight glass
- 3) R - indicates feed solutions used to generate Retrivable Paste
- F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose
- 4) All drums sent to TA-54 this period contained nonretrievable concentrations of TRU.
- 5) 215 liter steel unit
- 6) Based on CHN-11 Analysis. H-7 Analysis indicated presence of 28.2g of 241 Am in feed solution.

cc: John Warren, H-7

From TA-21-257 to Area T Shafts and CHP

Type of Waste In Pug Mill Feed Solution	Volume (liters)				Total
	403	404R	404F	Pug Mill Run Number (3)	
Plant Sludge	1790	--	--	--	1790
Neutralized Americium	--	4880	--	--	4880
Treated Strip	2410	--	--	--	2410
Raw KOH	840	--	--	--	840
Sight Glass Rinse Water (2)	830	850	--	--	1680
Miscellaneous	--	--	--	--	--
Total Vol. Feed Solutions	5870	5730	--	--	11600

GRAND Total Feed Solutions (liters)	11600
GRAND Total Cement Paste	16620
SHAFTS	
Total Milligrams 238 Pu In Feed Solution	1
Total Grams 239 Pu In Feed Solution	1.12
Total Grams 241 Am In Feed Solution	.8
Total Equivalent Grams 239 Pu In Feed Solution*	41
Total mCi B-Y activity In Feed Solution	8.1
Designation of Pit(s) Receiving Cement Paste	82
I.D. Nos. of CHP receiving Cement Paste	1208, 1209, 1210, 1211
Miscellaneous Drums of Waste Sent to Area "G", TA-54	36
238 Pu, 239 Pu, 241 Am expressed as 239 Pu. Actual H-7 Lab analysis of Feed Solutions indicate a total of 5/1117 equivalent grams of 239 Pu	

cc: John Warren, H-7

TO: H-7 Files
 FROM: J. R. Buchholz, L. A. Emelich, and T. K. Keenan, H-7
 SUBJECT: Paul E. McGinnis, Liquid Waste Engr. Section
 DATE: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 SYMBOL: April 7, 1977
 H7-77-126

Received by 22-100
 JUN 2 2 1993
 (stamp)

19 77

From TA-50-1 to Mesita del Buey (TA-54)

Type of Waste Solids	No. of Drums (4)	Vol. of Waste (Liters)	238Pu (mg)	239Pu (mg)	Equiv. 239Pu (mg)
Plant Sludge	69	12950	22	704	7.5
Grit	--	--	--	--	--
Tritium Vials	--	--	--	--	--
Miscellaneous	4	92	--	--	--
Total	73	13042	22	704	7.5

NOTES

- (1) Includes 241Am
- (2) Water used to clean sight glass
- (3) R - Indicates feed solutions used to generate Retrievable Paste
F - Indicates feed solutions used to generate Paste to Flush the Pug Mill
discharge hose
- (4) All drums sent to TA-54 this period were 200-l fiber units and contained nonretrievable levels of TRU.
- (5) Based on CHB-11 Analysis. H-7 Analysis indicated presence of 78.9 g of 241Am in feed solution

xc: John Warren, H-7

From TA-21-257 to Area T Shafts and CMP

Type of Waste in Pug Mill Feed Solution	Volume (liters)			Total
	405	406R	406F	
Plant Sludge	3391	--	--	3391
Neutralized Americium	--	5379	--	5379
Treated Strip	--	--	--	--
Raw KOH	1700	--	910	2610
Sight Glass Rinse Water (2)	950	193	571	1714
Miscellaneous	--	80	--	80
Total Vol. Feed Solutions	6041	5652	1481	13174

GRAND Total Feed Solutions (liters)	13174
GRAND Total Cement Paste	18890
SHAFTS	
Total Milligrams 238Pu in Feed Solution	6
Total Grams 239Pu in Feed Solution	0.7
Total Grams 241Am in Feed Solution	0.3
Total Equivalent Grams 239Pu in Feed Solution*	17.4
Total mCi beta activity in Feed Solution	5.3
Designation of Pit(s) Receiving Cement Paste	82
I.D. Nos. of CMP receiving Cement Paste	1211, 1212, 1213, 1214, 1215
Miscellaneous Drums of Waste Sent to Area "G", TA-54	18
238Pu 239Pu 241Am expressed as 239Pu	Actual H-7 Lab analysis of 239Pu
Feed Solutions Indicate a total of 16/5046 equivalent grams of 239Pu based on gross alpha.	

H-7 Files

To: J. R. Buchholz, L. A. Emelty, and T. K. Keenan, H-7

Thru: Paul E. McGinnis, Liquid Waste Engr. Section

From: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: April 7, 1977

Symbol: H7-77-126

March

JUN 22 1993

19 77

From TA-50-1 to Hesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238 Pu (mg)	239 Pu (mg)	Equiv. 239 Pu (grams)
Plant Sludge	57	10736	10	379	3.4
Grit	--	--	--	--	--
Tritium Vials	--	--	--	--	--
Miscellaneous	1	24	--	--	--
Total	58	10760	10	379	3.4

NOTES

- (1) Includes 241 Am
- (2) Water used to clean sight glass
- (3) R - indicates feed solutions used to generate Retrievable Paste
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose
- (4) All drums sent to TA-54 this period were 200 liter fiber units and contained nonretrievable levels of TRU.
- (5) Based on CM8-11 Analysis. H-7 analysis indicated presence of 84.7 g of 241 Am in feed solution.

John Warren, H-7
John Enders, H-7

From TA-21-257 to Area T Shafts and CMP

Type of Waste in Pug Mill Feed Solution	Volume (liters)				Total
	407	408R	408F	409	
Plant Sludge	3040	--	--	2024	50
Neutralized Americium	--	4723	--	--	4723
Treated Strip	--	--	--	1893	1893
Raw KOH	1472	--	770	--	2242
Sight Glass Rinse Water (2)	598	776	223	289	1886
Miscellaneous	--	--	--	--	--
Total Vol. Feed Solutions	5110	5499	993	4206	15808

GRAND Total Feed Solutions (liters)	15808
GRAND Total Cement Paste	20522
Total Milligrams 238 Pu in Feed Solution	4
Total Grams 239 Pu in Feed Solution	1.3
Total Grams 241 Am in Feed Solution	0.1
Total Equivalent Grams 239 Pu in Feed Solution*	7
Total mCi B-Y activity in Feed Solution	24.1
Designation of Pit(s) Receiving Cement Paste	82 & 87
I.D. Nos. of CMP receiving Cement Paste	1215, 1216, 1217, 1218
Miscellaneous Drums of Waste Sent to Area "C", TA-54	0
238 Pu 239 Pu 241 Am expressed as 239 Pu. Actual H-7 Lab analysis of Feed Solutions indicate a total of 5/3707 equivalent grams of 239 Pu based on gross α.	

John Warren, H-7
John Enders, H-7

To: H-7 Files
 Thru: J. R. Buchholz; L. A. Emelty, and T. K. Keenan, H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: June 6, 1977
 Symbol: H-7-77195

RECEIVED BY ENGR
 JUN 22 1993
 H-7

19 77

April

From TA-50-1 to Mesita del Buey (TA-54)						From TA-21-257 to Area T Shafts and CHP					
Type of Waste Solids	No. of drums	Vol. of Waste (liters)	238Pu (mg)	239Pu (mg)	Equiv. 239Pu (99%) grams	Type of Waste in Pug Mill Feed Solution	410	411A	411F	Total	
Plant Sludge	28	5292	3	136	1.1	Plant Sludge	2945	-	-	2945	
Grit	-	-	-	-	-	Neutralized Americium	-	4828	-	4828	
Tritium Vials	5	215	-	-	-	Treated Strip	568	-	-	568	
Miscellaneous	-	-	-	-	-	Raw KOH	1525	-	813	2338	
Total	33	5507	3	136	1.1	Sight Glass Rinse Water (2)	450	291	250	991	
						Miscellaneous	-	-	-	-	
						Total Vol. Feed Solutions	5488	5119	1063	11670	
NOTES											
(1) Includes 241Am						GRAND Total Feed Solutions (liters) 11670					
(2) Water used to clean sight glass						GRAND Total Cement Paste 16787					
(3) R - indicates feed solutions used to generate Retrievable Paste											
F - Indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose											
(4) All drums sent to TA-54 this period were 200 liter fiber units and contained non-retrievable levels of TRU.											
(5) Based on CMB-11 Analysis. H-7 analysis indicated presence of 3.4g of 241Am in feed solution. Reason for 10% discrepancy is not known for sure -											

To: H-7 Files *gTB*
 J. A. Buchholz; L. A. Emelby, and T. K. Keenan, H-7
 From: Paul E. McGinnis, Liquid Waste Engr. Section *P.E.M.*
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: July 12, 1977
 Symbol: H7-77-250

JUN 22 1993

Page 1 of 2

1977

From TA-50-1 to Mesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	Equiv. ²³⁹ Pu (Copp's grams)
Plant Sludge			
Fit			
Fitium Vials			
Miscellaneous			
Total			

NOTES

- Includes ²⁴¹Am
- Water used to
- R - indicat-
gener-
F - indi-
ge:
d

From TA-21-257 to Area T Shafts and CMP

Type of Waste in Pug Hill Feed Solution	Volume (liters)			
	412R	412F	413R	413F
Plant Sludge	--	--	--	--
Neutralized Americium	4819	--	4933	--
Treated Strip	--	--	--	2624
Raw KOH	--	1096	--	919
Sight Glass Rinse Water ⁽²⁾	269	367	238	439
Miscellaneous	62	--	--	--
Total Vol. Feed Solutions	5150	1463	5171	1358
				5450

GRAND Total Feed Solutions (liters)

GRAND Total Cement Paste

Total Hilligrams ²³⁸Pu in Feed Solution

Total Grams ²³⁹Pu in Feed Solution

Total Grams ²⁴¹Am in Feed Solution

Total Equivalent Grams ²³⁹Pu

Total mCi β - γ activity:

Designation of Pit(s)

I.D. Nos. of CMP

Miscellaneous

²³⁸Pu

Feed Solut

ate a total of equivalent grams of ²³⁹Pu

cc: John Warren, H-7

H-7 Files

J. R. Buchholz; L. A. Emelity, and T. K. Keenan, H-7

Paul E. McGinnis, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: July 12, 1977

Symbol: H7-77-250

May

19 77

From TA-50-1 to Mesita del Buey (TA-54)				From TA-21-257 to Area T Shafts and CMP			
Type of Waste Solids	No. of Drums (4)	Vol. of Waste (Liters)	238 Pu Curies	239 Pu Curies	241 Am Curies	Type of Waste in Pug Mill Feed Solution	Volume (liters)
Plant Sludge (5)	69	13041	.15	.03	.02	415R	415F
Pit	--	--	--	--	--	--	--
Plutonium Vials (6)	3	--	--	--	--	4828	--
Miscellaneous (6)	3	378	--	--	--	--	--
Total	75	13419	.15	.03	.02	--	--
NGIES				Total Vol. Feed Solutions			
1) Includes 241 Am				5055			
2) Water used to clean sight glass				1644			
3) R - Indicates feed solutions used to generate Retrievable Paste				25291			
F - Indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose				35326			
All drums sent to TA-54 this period contained nonretrievable levels of TRU.				SHAFTS			
Packaged in 200 liter fiber drums				CMP			
Packaged in 213 liter steel units				Total Curies			
Quantity based on CM8-11 analysis. H-7 analysis indicated a total of 859 curies 241 Am in feed solutions.				238 Pu in Feed Solution			
xc: John Warren, H-7				239 Pu in Feed Solution			
				241 Am in Feed Solution			
				Total Equivalent Curies 238 Pu in Feed Solution			
				Total mCi B-Y activity in Feed Solution			
				Designation of Pit(s) Receiving Cement Paste			
				I.D. Nos. of CMP receiving Cement Paste			
				Miscellaneous Drums of Waste Sent to Area "G", TA-54			
				238 Pu 239 Pu 241 Am Total Curies			
				i. Actual H-7 Lab analysis of Feed Solutions Indicate a total of .61/1180 curies based on gross α .			
				Disagreement with CM8-11 values appears to be due to poor H-7 sample.			

xc: John Warren, H-7

... 1977-07-12

TO: H-7 Files *WLB*
 FROM: J. R. Buchholz; L. A. Engel, and T. K. Keenan H-7
 SUBJECT: Paul E. McInnis, Liquid Waste Engr. Section *P.C.M.*
 SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 DATE: 8/1/77
 SYMBOL: H7-77-273

JUN 22 1993
 JUN 22 1993
 19 77

From TA-50-1 to Mesita del Euey (TA-54)				From TA-21-257 to Area T Shafts and CHP			
Type of Waste Solids	No. of Drums (4)	Vol. of Waste (liters)	239Pu curies	241Am curies	Type of Waste in Pug Mill Feed Solution	416R	416F
Plant Sludge	27	5092	.024	.006	Plant Sludge	--	--
Tris	--	--	--	--	Neutralized Americium	4844	--
Prillium Vials	--	--	--	--	Treated Strip	--	--
Miscellaneous	--	--	--	--	Raw KOH	--	707
Total	27	5092	.024	.006	Sight Glass Rinse Water (2)	307	114
					Miscellaneous	89	--
					Total Vol. Feed Solutions	5240	821
							5710

NOTES			
(1) Includes 241Am			11771
(2) Water used to clean sight glass			16419
(3) R - indicates feed solutions used to generate Retrievable Paste		SHAFTS	CHP
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose			
(4) All drums sent to TA-54 this period contained nonretrievable levels of TRU and were 200-litre fiber units			
(5) Number based on GMD-11 analysis. H-7 analysis of 239Pu, 241Am total curies. Actual H-7 Lab analysis of 239Pu, 241Am in feed solutions. Diff. of 351 curies of 241Am in feed solutions. Diff. due to sampling problems			

1231, 1232, 1233, 1235
 0
 25/374 curies based on

To: H-7 files *GRB*
 Thru: J. R. Buchholz; L. A. Emelty *282*
 From: Paul E. McInnis, Liquid Waste Engr. Section *P.E.M.*
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: 24 February 1978
 Symbol: H7-78-79

JANUARY 1978

From TA-50-1 to Hesita del Buey (TA-54)						From TA-21-257 to Area T Shafts and CHP						
Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238Pu curies	239Pu curies	241Am curies	Type of Waste in Pug Mill Feed Solution	430R	430F	431R	432R	432F	Total
Plant Sludge	29 ⁽⁴⁾	5481	.04	.04	.01	Plant Sludge	--	--	--	--	--	13023
Grit	1	208	--	--	--	Neutralized Americium	5249	--	2525	5249	--	1449
Ret. Plant Sludge	5 ⁽⁵⁾	945	.02	.04	.01	Treated Strip	--	--	--	--	--	1329
Miscellaneous	4	100	--	--	--	Raw KOH	--	707	--	--	742	273
Total	39	6734	.06	.08	.02	Sight Glass Rinse Water (1)	23	560	129	363	254	16074
						Miscellaneous	273	--	--	--	--	16074
						Total Vol. Feed Solutions	5545	1267	2654	5612	996	16074
						GRAND Total Feed Solutions (liters)	16074					
						GRAND Total Cement Paste	22707					
						Total curies 238Pu in Feed Solution	.01					
						Total curies 239Pu in Feed Solution	.13					
						Total curies 241Am in Feed Solution	.28					
						Total curies in Feed Solution *	.42					
						Total mfi B-γ activity in Feed Solution	1.93					
						Designation of Pit(s) Receiving Cement Paste	94, 92					
						I.D. Nos. of CHP receiving Cement Paste	1267 - 1276					
						Miscellaneous Drums of Waste Sent to Area "G", TA-54	0					
						238Pu, 239Pu, 241Am total curies. Actual H-7 Lab analysis of Feed Solutions indicate a total of .4/1243 curies based on gross α.						

From TA-50-1 to Hesita del Buey (TA-54)				JUN 24 1993			
(1) Water used to clean sight glass				retrievable			
(2) R - indicates feed solutions used to generate Retrievable Paste				retrievable			
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.				retrievable			
(3) Number reported is based on CIB-11 analysis				retrievable			
H-7 analysis indicates the presence of 1460 curies in the feed solution.				retrievable			
(4) 200-liter fiber units - nonretrievable				retrievable			
(5) 213-liter, 90-mil lined steel units, retrievable				retrievable			
Actual H-7 Lab analysis of feed Solutions indicate a total of .4/1243 curies based on gross α.				retrievable			

To: H-7 Files
 Thru: J. R. Buchholz; L. A. Emelly.
 From: Paul E. McInnis, Liquid Waste Engr. Section
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: 21 March 1978
 Symbol: H-7-78-106

February 1978

From TA-50-1 to Hesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238Pu curies	239Pu curies	241Am curies
Plant Sludge	37	6975	0.04	0.04	0.01
Grit	-	-	-	-	-
Tritium Vials	-	-	-	-	-
Miscellaneous	1	-	-	-	-
Total	38	6975	0.04	0.04	0.01

NOTES

- (1) Water used is clean sight glass
- (2) R - indicates feed solutions used to generate Retrievable Paste
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.
- (3) Number reported is based on CHB-11 analysis
H-7 analysis indicates the presence of curies in the Feed solution.
- (4) All drums are 200 liter fiber units containing nonretrievable TRU wastes.

From TA-21-257 to Area T Shafts and CMP

Type of Waste in Pug Mill Feed Solution	Volume (liters)					
	Pug Mill Run Number (2)					
						Total
Plant Sludge						
Neutralized Americium						
Treated Strip						
Raw KOH						
Sight Glass Rinse Water (1)						
Miscellaneous						
Total Vol. Feed Solutions						
GRAND Total Feed Solutions (liters)						
GRAND Total Cement Paste						
Total curies ²³⁸ Pu in Feed Solution						
Total curies ²³⁹ Pu in Feed Solution						
Total curies ²⁴¹ Am in Feed Solution						
Total curies in Feed Solution						
Total mCi β-γ activity in Feed Solution						
Designation of Pit(s) Receiving Cement Paste						
I.D. Nos. of CMP receiving Cement Paste						
Miscellaneous Drums of Waste Sent to Area "G", TA-54						
²³⁸ Pu ²³⁹ Pu ²⁴¹ Am total curies. Actual H-7 Lab analysis of						
Feed Solutions indicate a total of						
gross α.						

JUN 22 1953

cc: John Warren, H-7

To: H-7 Files

Thrus

From: J. R. Buchholz, L. A. Ecelity

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: April 18, 1978

Symbol: H7-78-137

Section I.E. M.

March

19 78

From TA-50-1 to Mesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CMP

Type of Waste Solids	No. of Drums	Vol. of Waste (Liters)	238Pu curies	239Pu curies	241Am curies
Plant Sludge	53	9560	.09	.07	.03
Neutralized Americium	--	--	--	--	--
Treated Strip	--	--	--	--	--
Raw KOH	--	--	--	--	--
Sight Glass Rinse Water	--	--	--	--	--
Miscellaneous	--	--	--	--	--
Total	53	9560	.09	.07	.03

NOTES

- 1) Water used to clean sight glass
- 2) R - indicates feed solutions used to generate Retrievable Paste
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.
- 3) Number reported is based on CMB-11 analysis
H-7 analysis indicates the presence of 780 curies in the Feed solution.
- 4) All drums are 200-liter fiber units containing nonretrievable levels of TRU in the waste.

xc: John Warren, H-7

JUN 22 1978

Hand

Volume (liters)

Type of Waste in Pug Mill Feed Solution	433R	433F	434R	434F	435	Total
Plant Sludge	--	--	--	--	1841	1841
Neutralized Americium	5301	--	6259	--	--	11560
Treated Strip	--	--	--	--	3776	3776
Raw KOH	--	247	--	707	--	954
Sight Glass Rinse Water	23	18	60	80	120	301
Miscellaneous	--	--	120	185	--	305
Total Vol. Feed Solutions	5324	265	6439	972	5737	18737

GRAND Total Feed Solutions (liters)

GRAND Total Cement Paste

SHAFTS

CMP

Total curies 238Pu in Feed Solution

Total curies 239Pu in Feed Solution

Total curies 241Am in Feed Solution

Total curies in Feed Solution

Total mCi β-γ activity in Feed Solution

Designation of Pit(s) Receiving Cement Paste

I.D. Nos. of CMP receiving Cement Paste

Miscellaneous Drums of Waste Sent to Area "G", TA-54

238Pu 239Pu 241Am total curies. Actual H-7 Lab analysis of

Feed Solutions indicate a total of 15.8/760 curies based on

gross α.

H7-78-137

WENTEN

To: H-7 files

Thru: L. A. Emelity, H-7 files

From: J. R. Buchholz, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: 15 June 1978

Symbol: H-7-78-237

April

1978

From TA-50-1 to Hesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CMP

Type of Waste Solids	No. of Drums	Vol. of Waste (Liters)	238 ^{pu} curies	239 ^{pu} curies	241 ^{Am} curies
Plant Sludge	60	11328	0.31	0.062	0.0019
Neutralized Americium	-	-	-	-	-
Treated Strip	-	-	-	-	-
Raw KOH	-	-	-	-	-
Sight Glass Rinse Water (1)	-	-	-	-	-
Miscellaneous	-	-	-	-	-
Total	60	11328	0.31	0.062	0.0019

NOTES

- 1) Water used to clean sight glass
- 2) R - indicates feed solutions used to generate Retrievable Paste
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.
- 3) Number reported is based on CMB-11 analysis
H-7 analysis indicates the presence of 730 curies in the Feed solution.

Received by ER-RPF

JUN 22 1978

cc: John Warren, H-7

Type of Waste in Pug Mill Feed Solution	Volume (liters)				Total
	436R	436F	437R	437F	
Plant Sludge	-	-	-	-	-
Neutralized Americium	6459	-	6143	-	12602
Treated Strip	-	-	-	-	-
Raw KOH	-	-	-	-	-
Sight Glass Rinse Water (1)	14	-	26	-	40
Miscellaneous	535	-	150	-	685
Total Vol. Feed Solutions	7008	-	6319	-	13327

GRAND Total Feed Solutions (liters)		13327
GRAND Total Cement Paste		17062
		SHAFTS
Total curies 238 ^{pu} in Feed Solution		1.49
Total curies 239 ^{pu} in Feed Solution		1.38
Total curies 241 ^{Am} in Feed Solution		636.7 (3)
Total curies in Feed Solution		640.6
Total mCi B-Y activity in Feed Solution		27.8
Designation of Pit(s) Receiving Cement Paste		-

I.D. Nos. of CMP receiving Cement Paste	1283 thru 1289
---	----------------

Miscellaneous Drums of Waste Sent to Area "G", TA-54	0
238 ^{pu} 239 ^{pu} 241 ^{Am} total curies: Actual H-7 Lab analysis of	
Feed Solutions indicate a total of	815 curies based on
Gross α.	

NO. OF CURIES = 815

To: H-7 Files

Thru: L. A. Emily, H-7

From: J.R. Buchholz, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: 15 June 1978

Symbol: H-7-78-236

May

1978

From TA-50-1 to Mesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238 Pu curies	239 Pu curies	241 Am curies
Plant Sludge	57	10773	0.37	0.092	0.0032
Neutralized Americium	-	-	-	-	-
Treated Strip	-	-	-	-	-
Raw KOH	-	-	-	-	-
Sight Glass Rinse Water (1)	40	-	-	-	-
Miscellaneous	-	-	-	-	-
Total	57	10773	0.37	0.092	0.0032

NOTES

- 1) Water used to clean sight glass
- 2) R - indicates feed solutions used to generate Retrievable Paste
- F - indicates feed solutions used to generate Paste to Flush the Fug Mill discharge hose.
- 3) Material reported is based on CMR-11 analysis
- H-7 analysis indicates the presence of 100 curies in the feed solution.

Received by FR-RPF

JUN 22 1978

144

From TA-21-257 to Area T Shafts and CMP

Type of Waste in Fug Mill Feed Solution	Volume (liters)					Total
	438R	438F	439R	439F	Run Number 121	
Plant Sludge	-	-	-	-	-	-
Neutralized Americium	6516	-	2987	-	-	9503
Treated Strip	-	-	-	-	-	-
Raw KOH	-	-	1366	-	-	1366
Sight Glass Rinse Water (1)	40	-	115	-	-	155
Miscellaneous	100	-	43	-	-	143
Total Vol. Feed Solutions	6656	-	6511	-	-	13167

GRAND Total Feed Solutions (liters)	13167
GRAND Total Cement Paste	17551
SHAFTS	
Total curies 238 Pu in Feed Solution	-
Total curies 239 Pu in Feed Solution	-
Total curies 241 Am in Feed Solution	-
Total curies in Feed Solution	257.1 (3)
Total mCi B-Y activity in Feed Solution	259.2 *
Designation of Pit(s) Receiving Cement Paste	26.4

I.D. Nos. of CMP receiving Cement Paste	1290 thru 1296
Miscellaneous Drums of Waste Sent to Area "G", TA-54	22

238 Pu	239 Pu	241 Am	total curies	Actual H-7 Lab analysis of Feed Solutions indicate a total of 350 curies based on gross ft.
-	-	-	-	-

NO. OF DRUMS SENT TO AREA "G"

To: Files

Thru: L. A. Smiley, Jr.

From: J.R. Buchholz, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: July 11, 1978

Symbol: H7-78-275

JUNE

1978

From TA-50-1 to Hesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (Liters)	238 Pu curies	239 Pu curies	241 Am curies
Plant Sludge	18	3402	0.075	0.019	0.0086
Tit Vials	--	--	--	--	--
Miscellaneous	---	---	---	---	---
Total	18	3402	0.075	0.019	0.0086

NOTES

- Water used to clean sight glass
- R - indicates feed solutions used to generate Retrievable Paste
- F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.
- Number reported is based on CHB-11 analysis
- H-7 analysis indicates the presence of 330.7 curies in the Feed solution.

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JUN 27 1978

xc: John Warren, H-7

From TA-21-257 to Area T Shafts and CHP

Type of Waste in Pug Mill Feed Solution	Volume (liters)					Total
	440	441R	441F	442R	442F	
Plant Sludge		---	---	---	---	---
Neutralized Americium		5850	---	6195	---	12045
Treated Strip	4407	---	---	---	---	4407
Raw KOH		---	---	---	---	---
Sight Glass Rinse Water (1)	50	26	---	35	---	113
Miscellaneous	350	125	---	130	---	605
Total Vol. Feed Solutions	4307	6005	---	6325	---	17137

GRAND Total Feed Solutions (liters)	17,137
GRAND Total Cement Paste	28,252
	SHAFTS
Total curies 238 Pu in Feed Solution	0.07
Total curies 239 Pu in Feed Solution	0.08
Total curies 241 Am in Feed Solution (3)	1.83
Total curies in Feed Solution	1.98
Total mCi B-Y activity in Feed Solution	0.07
Designation of Pit(s) Receiving Cement Paste	92

I.D. Nos. of CHP receiving Cement Paste	1297 - 1299 & 3301 - 3305
Miscellaneous Drums of Waste Sent to Area "F", TA-54	---
238 Pu 239 Pu 241 Am total curies. Actual H-7 Lab analysis of	---
Feed Solutions indicate a total of 282.6 curies based on gross α.	---

NO. CONTAINERS SENT

TO: Files

Thru: L. A. Emelity

From: J. R. Buchholz, Liquid Waste Engr. Section

Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR

Date: September 7, 1978

Symbol: H7-78-363

JULY

19 78

From YA-50-1 to Mesita del Buey (TA-54)

Type of Waste Solids	No. of Drums	Vol. of Waste (liters)	238 Pu curies	239 Pu curies	241 Am curies
Plant Sludge	87	16471	0.066	0.35	0.0097
It	2	378	---	---	---
Plutonium Vials					
Miscellaneous	6	1134	---	---	---
Total	95	17955	0.066	0.35	0.0097

NOTES

- 1) Water used to clean sight glass
- 2) R - indicates feed solutions used to generate Retrivable Paste
- F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.

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JUN 22 1993

Handwritten signature

cc: John Warren, H-7

From YA-21-257 to Area T Shafts and CHP

Type of Waste In Pug Mill Feed Solution	Volume (liters)				Total
	443	Pug Mill Run Number	(2)		
Plant Sludge	5406				5406
Neutralized Americium	---				---
Treated Strip	---				---
Raw KOH	---				---
Sight Glass Rinse Water (1)	300				300
Miscellaneous	150				150
Total Vol. Feed Solutions	5856				5856

GRAND Total Feed Solutions (liters)		5856
GRAND Total Cement Paste		9611
	SHAFTS	CHP
Total curies ²³⁸ Pu in Feed Solution		.028
Total curies ²³⁹ Pu in Feed Solution		.066
Total curies ²⁴¹ Am in Feed Solution		0.69
Total curies in Feed Solution		0.78
Total mCi β-γ activity in Feed Solution		0.29
Designation of Pit(s) Receiving Cement Paste		91
I.D. Nos. of CHP receiving Cement Paste		---
Miscellaneous Drums of Waste Sent to Area "G", TA-54		---
²³⁸ Pu	²³⁹ Pu	²⁴¹ Am
total curies: Actual H-7 Lab analysis of		
Feed Solutions indicate a total of		0.78 curies based on

cc: John Warren, H-7

To: H-7 Files
 Thru: L. A. Enelly
 From: J. R. Buchholz, Liquid Waste Engr. Section Leader
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: October 5, 1978
 Symbol: H7-78-397

AUGUST

1978

JUN 22 1993

From TA-50-1 to Hesita del Buey (TA-54)

From TA-21-257 to Area T Shafts and CMP

Type of Waste Solids	No. of Drums (4)	Vol. of Waste (Liters)	238Pu curies	239Pu curies	241Am curies
Plant Sludge	156	29857	0.16	0.25	0.073
Grit					
Tritium Vials					
Miscellaneous					
Total	156	29857	0.16	0.25	0.073

NOTES

- (1) Water used to clean sight glass
- (2) R indicates feed solutions used to generate Retrievable Paste
 F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.
- (3) Number reported is based on CHB-11 analysis
 H-7 analysis indicates the presence of curies in the Feed solution.

NO PUG MILL RUNS DURING AUGUST, 1978.

1 steel nonretrievable drums used.

cc: John Warren, H-7
 Cyndee Murthy, H-7 MS 502

Type of Waste in Pug Hill Feed Solution

Volume (liters)

Pug Hill Run Number (2)

Total

Plant Sludge

Neutralized Americium

Treated Strip

Raw KOH

Sight Glass Rinse Water (1)

Miscellaneous

Total Vol. Feed Solutions

GRAND Total Feed Solutions (liters)

GRAND Total Cement Paste

Total curies 238Pu in Feed Solution

Total curies 239Pu in Feed Solution

Total curies 241Am in Feed Solution

Total curies in Feed Solution

Total mCi B-Y activity in Feed Solution

Designation of Pit(s) Receiving Cement Paste

I.D. Nos. of CMP receiving Cement Paste

Miscellaneous Drums of Waste Sent to Area "C", TA-54

238Pu 239Pu 241Am total curies. Actual H-7 Lab analysis of

Feed Solutions indicate a total of

Gross α.

NO - UNRETRIEVABLE

To: H-7 Files
 Thru: L. A. Ecelity
 From: J. R. Buchholz, Liq. Waste Engr. Section Leader
 Subject: SUMMARY OF CONTAMINATED WASTE SOLIDS TO DISPOSAL PITS FOR
 Date: October 5, 1978
 Symbol: H7-78-398

SEPTEMBER 1978

Received by ER-RPF
 JUN 22 1993
 143

From TA-50-1 to Mesita del Buey (TA-54)				From TA-21-257 to Area T Shafes and CHP			
Type of Waste Solids	No. of Drums (4)	Vol. of Waste (liters)	238 Pu curies	239 Pu curies	241 Am curies	Type of Waste in Pug Mill Feed Solution	Volume (liters)
Plant Sludge	58	11909	.06	.07	.02	444	5706
Grit						5406	5406
Tritium Vials						100	100
Miscellaneous						200	200
Total	58	11909	.06	.07	.02	5706	5706
NOTES							
(1) Water used to clean sight glass				GRAND Total Feed Solutions (liters)			
(2) R - indicates feed solutions used to generate Retrievable Paste				GRAND Total Cement Paste			
F - indicates feed solutions used to generate Paste to Flush the Pug Mill discharge hose.				SHAFTS			
(3) Number reported is based on CMB-11 analysis				Total curies 238 Pu in Feed Solution			
H-7 analysis indicates the presence of curies in the Feed solution.				Total curies 239 Pu in Feed Solution			
(4) Used 34 steel nonretrievable drums				Total curies 241 Am in Feed Solution			
				Total curies in Feed Solution*			
				Total mCi B-Y activity in Feed Solution			
				Designation of Pit(s) Receiving Cement Paste			
				I.D. Nos. of CMP receiving Cement Paste			
				Miscellaneous Drums of Waste Sent to Area "G", TA-54			
				238 Pu 239 Pu 241 Am total curies. Actual H-7 Lab analysis of			
				Feed Solutions indicate a total of 0.6 curies based on			
				gross a.			

cc: John Warren, H-7

Appendix D

Six-Month Summaries of Contaminated Wastes to Disposal Pits (and CMPs)

July 1, 1975, to December 31, 1975

January 1, 1976, to June 30, 1976

January 1, 1977, to June 30, 1977

July 1, 1977, to December 31, 1977

January 1, 1978, to June 30, 1978

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OFFICE MEMORANDUM

TO : John L. Warren, Solid Waste Engr. Sect., H-7 DATE: February 10, 1976

THRU : J. R. Buchholz, Liq. Waste Engr. Sect. Ldr., H-7 *JRB*
L. A. Emelity, Alt. Group Leader, H-7 *JRB*

FROM : Paul E. McGinnis, Liq. Waste Treatment, H-7 *PEM.*

SUBJECT : SUMMARY OF CONTAMINATED WASTES TO DISPOSAL PITS, JULY 1, 1975 THROUGH
DECEMBER 31, 1975

SYMBOL : H7-76-PEM-97

During the last six months of 1975, the following contaminated wastes were forwarded to burial:

1) To Mesita del Buey

Total Volume	91,600 liters ^(a)
Total Equivalent ²³⁹ Pu	3.5 Ci
Total ²³⁸ Pu	3.0 Ci
Total ²³⁹ Pu	.4 Ci
Total ²⁴¹ Am	.2 Ci
Total U(b)	315 grams

2) To TA-21-257 (Area T)

	Non-Retrievable Shafts	Retrievable CMP
Total Volume Cement Paste (liters)	181,100	4560
Total Volume Feed Solutions (liters)	119,900	3790
Total ²³⁸ Pu Ci	5.7	.1
Total ²³⁹ Pu Ci	11.4	1.8
Total ²⁴¹ Am Ci	349.0	19.1
Total MFP Activity Ci	.3	0
Total U(c) grams	308	0

a) Volume includes 240/215-liter steel drums of plant sludge, 54/200-liter fiber drums of plant sludge, 27/215-liter steel drums of vermiculite and oil, and 98/113-liter fiber drums of contaminated anthracite coal filter media.

b) Activity contained in plant sludge only.

c) Activity contained in plant sludge, KOH batch waste, and strip solutions. Mostly ²³⁵U.

Received by ER-RPF

JUN 22 1993

07936758

TO: J. L. Warren

-2

DATE: February 10, 1976

Data on shafts filled this period are as follows:

Shaft No.	Approx. Depth m	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	^{241}Am Ci
6-15	20.3	7/ 2/75	52,800	1.0	7.1	113.3
6	8.2	8/ 4/75	35,000	.1	.9	43.1
6-16	20.5	10/ 9/75	52,600	.3	2.7	181.8
6-10	20.7	12/11/75	52,400	1.3	4.9	103.2
6-23	7.3	12/16/75	18,000	3.7	2.0	20.8

Data on Corrugated Metal Pipe (CMP) filled this period^(d) are as follows:

CMP I.D. No.	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	^{241}Am Ci
00150	12/31/75	3,000	.05	.9	9.9
00151	12/31/75	3,000	.05	.9	9.2

d) Retrievable Storage in Area T began December 31, 1975. Containment vessel is 30" (.8m) dia x 20' (6.1m) deep and will hold approximately 3.0 m³ cement paste

PEM:bh

xc: M. A. Rogers, H-8, MS 737

OFFICE MEMORANDUM

TO : John L. Warren, H-7, MS 517
Thru : J. R. Buchholz, Liq. Waste Engr. Sect. Ldr.
L. A. Emelity, H-7 Alt. Group Leader
FROM : P. E. McGinnis, Liq. Waste Treatment, H-7
SUBJECT : SUMMARY OF CONTAMINATED WASTES TO DISPOSAL PITS, JANUARY 1, 1976
THROUGH JUNE 30, 1976
SYMBOL : H7-76-381
MAIL STOP: 518

DATE: July 28, 1976

During the first six months of 1976, the following contaminated wastes were forwarded to burial:

1) To Mesita del Buey

Total volume	82,528 liters (a)
Total Equivalent 239Pu	1.8 Ci
Total 238Pu	1.5 Ci
Total 239Pu	.2 Ci
Total 241Am	.1 Ci
Total U(b)	218 grams

2) To TA-21-257 (Area T)

	Non-Retrievable Shafts	Retrievable CMP
Total Vol. Cement Paste (2)-----	104,310	67,230
Total Vol. Feed Solutions (2)-----	74,397	47,203
Total 238Pu Ci -----	.27	2.49
Total 239Pu Ci -----	.95	13.09
Total 241Am Ci -----	3.21	316.22(d)
Total MFP Activity Ci-----	.029	.016
Total U(c) grams -----	333	0

- a) Volume includes 83/215-2 steel drums of plant sludge and 336/200-2 fiber drums of plant sludge.
- b) Activity contained in plant sludge only.
- c) Activity contained in plant sludge, KOH batch waste, and strip solutions. Mostly 235U.
- d) Based on quantities reported by CMB-11 analysis of Raffinate waste.

Received by ER-RPF
JUN 22 1993
Itw

TO: John L. Warren

-2-

DATE: July 28, 1976

Data on shafts filled this period are as follows:

Shaft No.	Approx. Depth m	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	$^{241}\text{Am}^{(e)}$ Ci
80	21.7	2-20-76	56,300	.29	.60	1.20
78	21.2	5-12-76	49,800	.11	.42	3.69

Data on Corrugated Metal Pipe (CMP) filled this period^(f) are as follows:

CMP I.D. No.	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	$^{241}\text{Am}^{(g)}$ Ci
001152	1/16/76	2,800	.04	.90	18.9
001153	1/16/76	2,800	.04	.90	20.9
001154	1/23/76	2,800	.04	.88	20.9
001155	1/23/76	2,800	.04	.40	20.4
001156	1/23/76	2,800	.04	.40	20.2
001157	2/ 5/76	2,800	.04	.34	21.6
001158	2/ 5/76	2,800	.05	.28	25.1
001159	2/ 5/76	2,800	.05	.27	24.2
001160	2/26/76	2,800	.07	.37	24.2
001161	2/26/76	2,800	.09	.48	25.1
001162	2/26/76	2,800	.09	.48	25.1
001163	3/16/76	2,800	.06	.45	16.1
001164	3/16/76	2,800	.04	.44	9.1
001165	3/16/76	2,800	.04	.48	9.9
001166	4/ 6/76	2,800	.05	.52	8.8
001167	4/ 6/76	2,800	.06	.56	3.2
001168	4/ 6/76	2,800	.06	.56	8.2
001169	4/23/76	2,800	.10	.69	10.8
001170	4/23/76	2,800	.14	.85	13.5
001171	4/23/76	2,800	.14	.85	13.5
001172	5/19/76	2,800	.11	.74	16.3
001173	5/19/76	2,800	.06	.56	22.1
001174	5/19/76	2,800	.06	.57	22.3
001175	5/19/76	2,800	.06	.55	21.6
001176	6/ 8/76	2,800	.24	.18	12.1
001177	6/ 8/76	2,800	.32	.02	8.3
001178	6/ 8/76	2,800	.30	.02	7.9

e) Concentration in paste exceeds 10 nCi/g. However, administrative efforts are continuing to perfect operating procedures which will reduce the concentrations to acceptable levels.

f) Retrieval Storage in Area 7 began December 31, 1975. Containment vessel is 30" (.8 m) dia x 20' (6.1 m) deep and will hold approximately 2.8 m³ cement paste.

g) Numbers are based on H-7 analysis of Pug Mill Feed Solutions

OFFICE MEMORANDUM

→ TO : John L. Warren, Solid Waste Engr. Sect., H-7 DATE: 1 February 1978

Thru : J. R. Buchholz, Liq. Waste Engr. Sect., H-7 *gRB*
L. A. Emelity, Alt. Group Leader, H-7 *lee*

FROM : P. E. McGinnis, Liq. Waste Treatment, H-7 *P.E.M.*

SUBJECT : SUMMARY OF CONTAMINATED WASTES TO DISPOSAL PITS, JULY 1, THROUGH
DECEMBER 31, 1977

SYMBOL : H-7-78-49

MAIL STOP: 518

During the last six months of 1977, the following contaminated wastes were forwarded to burial:

1) To Mesita del Buey

Total Volume	37540 Liters	(a)
Total ^{238}Pu	.26 Ci	(b)
Total ^{239}Pu	.47 Ci	(b)
Total ^{241}Am	.14 Ci	(b)
Total U	796 Grams	(b)

2) To TA-21-257 (Area T)

	<u>Non-Retrievable Shafts</u>	<u>Retrievable CMP</u>
Total Volume Cement Paste (liters)	27330	82060
Total Volume Feed Solutions (liters)	23480	54170
Total ^{238}Pu Ci	0.05	10.44
Total ^{239}Pu Ci	1.46	10.47
Total ^{241}Am Ci	2.47	4710 ^d
Total MFP Activity Ci	0.017	0.050
Total U ^(c) grams	384	0

-
- a) Volume includes 8/215 l steel drums of plant sludge, 180/200 l fiber drums of plant sludge, and 9 drums of miscellaneous wastes from Bldg. 257.
- b) Activity contained in plant sludge only.
- c) Activity contained in plant sludge, KOH batch waste, and strip solutions. Mostly ^{235}U
- d) Based on quantities reported by CMB-11 analysis of raffinate waste.
-

TO: John L. Warren, H-7

-2-

DATE: 1 February 1978

Data on shafts filled this period are as follows:

Shaft No.	Approx. Depth m	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	^{241}Am (e), (g) Ci
8 ^(h)	20.4	7/20/77	77,300	0.54	3.29	99.10
87	20.0	10/4/77	51,100	0.18	0.56	2.61

Data on Corrugated Metal Pipe (CMP) filled this period^(f) are as follows:

CMP I.D. No.	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	^{241}Am (g) Ci
001234	7/7/77	2,800	0.26	0.55	146.6
001235	7/7/77	2,800	0.10	0.28	116.2
001236	8/26/77	2,800	0.18	0.28	185.6
001237	7/7/77	2,800	0.23	0.49	132.4
001238	7/7/77	2,800	0.27	0.56	151.3
001239	8/26/77	2,800	0.18	0.28	185.6
001240	8/26/77	2,800	0.19	0.29	192.0
001241	9/8/77	2,800	0.11	0.42	152.7
001242	9/8/77	2,800	0.06	0.52	132.9
001243	9/21/77	2,800	0.07	0.28	127.3
001244 ⁽ⁱ⁾	9/8/77	2,800	0.06	0.58	147.1
001245	9/21/77	2,800	0.07	0.54	150.1
001246	9/21/77	2,800	0.08	0.31	144.3
001247	9/23/77	2,800	0.08	0.29	140.4
001248	9/23/77	2,800	0.05	0.15	142.7
001249	9/23/77	2,800	0.05	0.15	142.7
001250	10/19/77	2,800	0.09	0.16	145.9
001251	10/19/77	2,800	0.37	0.12	129.4
001252	10/19/77	2,800	0.37	0.12	129.4
001253	10/19/77	2,800	0.37	0.12	129.4
001254	11/4/77	2,800	0.33	0.14	169.0
001255	11/4/77	2,800	0.33	0.14	169.0
001256	11/4/77	2,800	0.33	0.14	169.0
001257	11/15/77	2,800	0.30	0.12	153.6
001258	11/15/77	2,800	0.54	0.23	200.4
001259	11/15/77	2,800	0.54	0.23	200.4
001260	12/9/77	2,800	0.55	0.30	193.1
001261	12/9/77	2,800	0.54	0.33	181.2
001262	12/9/77	2,800	0.54	0.33	181.2
001263	12/9/77	2,800	0.54	0.33	181.2
001264	12/15/77	2,800	0.65	0.44	197.2
001265	12/15/77	2,800	0.72	0.51	202.9
001266	12/15/77	2,800	0.72	0.51	202.9

e) Concentration in paste exceeds 10 nCi/g. However, administrative efforts are continuing to perfect operating procedures which will reduce the concentrations to acceptable levels.

TO: John L. Warren

-3-

DATE: 1 February 1978

- f) Retrievable Storage in Area T began December 31, 1975. Containment vessel is 30" (.8 m) dia x 20' (6.1 m) deep and will hold approximately 2.8 m³ cement paste.
- g) Numbers are based on H-7 analysis of Pug Mill Feed Solutions.
- h) Includes solids in rinse water from 95 PMRs. Bulk of radioactivity received during 6 PMRs in 1974.
- i) first CMP with 16-gauge cap on bottom.

PEM:ms

xc: M. A. Rogers, H-8, MS 737

OFFICE MEMORANDUM

TO : John L. Warren, Solid Waste Engr. Sect., H-7 DATE: 26 August 1977

THRU : J. R. Buchholz, Liq. Waste Engr. Sect., H-7 *APB*
L. A. Emelity, Alt. Group Leader, H-7 *APB*

FROM : P. E. McGinnis, Liq. Waste Treatment, H-7 *P.E.M.*

SUBJECT : SUMMARY OF CONTAMINATED WASTES TO DISPOSAL PITS, JANUARY 1, THROUGH
JUNE 30, 1977

SYMBOL : H7-77-324

MAIL STOP: 518

During the first six months of 1977, the following contaminated wastes were forwarded to burial:

1) To Mesita del Buey

Total Volume	62730 Liters	(a)
Total Equivalent ^{239}Pu	1.17 Ci	(b)
Total ^{238}Pu	.96 Ci	(b)
Total ^{239}Pu	.13 Ci	(b)
Total ^{241}Am	.08 Ci	(b)
Total U	220 Grams	(b)

2) To TA-21-257 (Area T)

	Non-Retrievable Shafts	Retrievable CMP
Total Volume Cement Paste (liters)	63,540	61,030
Total Volume Feed Solutions (liters)	46,700	42,620
Total ^{238}Pu Ci	.26	2.12
Total ^{239}Pu Ci	.44	5.10
Total ^{241}Am Ci	2.05	1842.6
Total MFP Activity Ci	.051	.101
Total U(C) grams	310	0

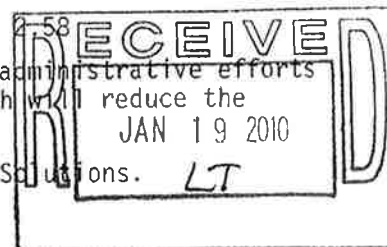
- a) Volume includes 0/215-2 steel drums of plant sludge, 284/200-2 fiber drums of plant sludge, and 43 drums of miscellaneous wastes from Bldg. 257.
- b) Activity contained in plant sludge only.
- c) Activity contained in plant sludge, KOH batch waste, and strip solutions. Mostly ^{235}U .
- d) Based on quantities reported by CMB-11 analysis of raffinate waste.

Data on shafts filled this period are as follows:

Shaft No.	Approx. Depth m	Date Filled	Cement Paste liters	^{238}Pu Ci	^{239}Pu Ci	^{241}Am (e, f) Ci
82	19.5	3-4-77	49,600	.23	.55	2.58

- e) Concentration in paste exceeds 30 nCi/g. However, administrative efforts are continuing to perfect operating procedures which will reduce the concentrations to acceptable levels.

- f) Numbers are based on H-7 analysis of Pug Mill Feed Solutions.



TO: John L. Warren
H7-77-324

-2-

DATE: 26 August 1977

Data on Corrugated Metal Pipe (CMP) filled this period^(g) are as follows:

<u>CMP</u> <u>I.D. No.</u>	<u>Date</u> <u>Filled</u>	<u>Cement</u> <u>Paste</u> <u>Liters</u>	<u>²³⁸Pu</u> <u>Ci</u>	<u>²³⁹Pu</u> <u>Ci</u>	<u>²⁴¹Am^(h,i)</u> <u>Ci</u>
001208	01/28/77	2,800	.01	.03	24.1
001209	01/28/77	2,800	.01	.04	26.5
001210	01/28/77	2,800	.02	.06	23.9
001211	02/10/77	2,800	.01	.04	27.3
001212	02/10/77	2,800	.04	.21	74.2
001213	02/10/77	2,800	.04	.21	74.2
001214	02/10/77	2,800	.04	.22	79.3
001215	03/10/77	2,800	.02	.21	83.2
001216	03/10/77	2,800	.02	.21	90.6
001217	03/10/77	2,800	.02	.21	87.8
001218	04/14/77	2,800	.01	.11	42.8
001219	04/14/77	2,800	.00	.01	3.5
001220	04/14/77	2,800	.00	.00	3.5
001221	05/03/77	2,800	.06	.13	20.5
001222	05/03/77	2,800	.23	.47	69.5
001223	05/03/77	2,800	.23	.45	67.3
001224	05/03/77	2,800	.23	.47	69.5
001225	05/05/77	2,800	.08	.32	108.7
001226	05/05/77	2,800	.08	.33	112.2
001227	05/05/77	2,800	.08	.33	112.2
001228	05/26/77	2,800	.20	.17	90.7
001229	05/26/77	2,800	.22	.15	88.1
001230	05/26/77	2,800	.22	.15	88.1
001231	06/14/77	2,800	.11	.16	97.9
001232	06/14/77	2,800	.04	.17	101.7
001233	06/14/77	2,800	.04	.18	108.7

g) Retrievable Storage in Area T began December 31, 1975. Containment vessel is 30" (.8m) dia x 20' (6.1m) deep and will hold approximately 2.8 m³ cement paste.

h) Numbers are based on H-7 analysis of Pug Mill Feed Solutions.

i) CMB-11 analysis (considered more accurate) will be supplied at a later date.

PEM:bh

xc: M. A. Rogers, H-8, MS 490

OFFICE MEMORANDUM

TO : John L. Warren, Solid Waste Disposal Sec.

DATE: 11 July 1978

FROM : L. A. Emelity, Alt. Group Leader *LAEm*

FROM : J. R. Buchholz, Liq. Waste Engr. Sect.

SUBJECT : SUMMARY OF CONTAMINATED WASTES TO DISPOSAL PITS, JANUARY 1 THROUGH JUNE 30, 1978

SYMBOL : H7-78-276

NAIL STOP: 518

During the first six months of 1978, the following contaminated wastes were forwarded to burial:

1) To Mesita del Buey

Total Volume	53,000 liters (a)
Total ^{239}Pu	0.93 Ci (b)
Total ^{235}Pu	0.36 Ci (b)
Total ^{241}Am	0.07 Ci (b)
Total U	204 Grams (b)

2) To TA-21-257 (Area T)

	<u>Nonretrievable Shafts</u>	<u>Retrievable C&P</u>
Total Volume Cement Paste	24,202 liters	88,370 liters
Total Volume Feed Solutions	14,044 liters	64,398 liters
Total ^{239}Pu	0.38 Ci	4.6 Ci
Total ^{235}Pu	0.63 Ci	14.8 Ci
Total ^{241}Am	15.1 Ci	3178 Ci (d)
Total MFP Activity	0.004 Ci	0.14 Ci
Total U (c)	329 Grams	0 Grams

a) Volume includes 5/213 & 90-mil lined steel drums of plant sludge, 254/200 & fiber drums of plant sludge, 6 drums of misc. wastes from TA-50-1 and 22 drums of misc. wastes from Bldg. 257.

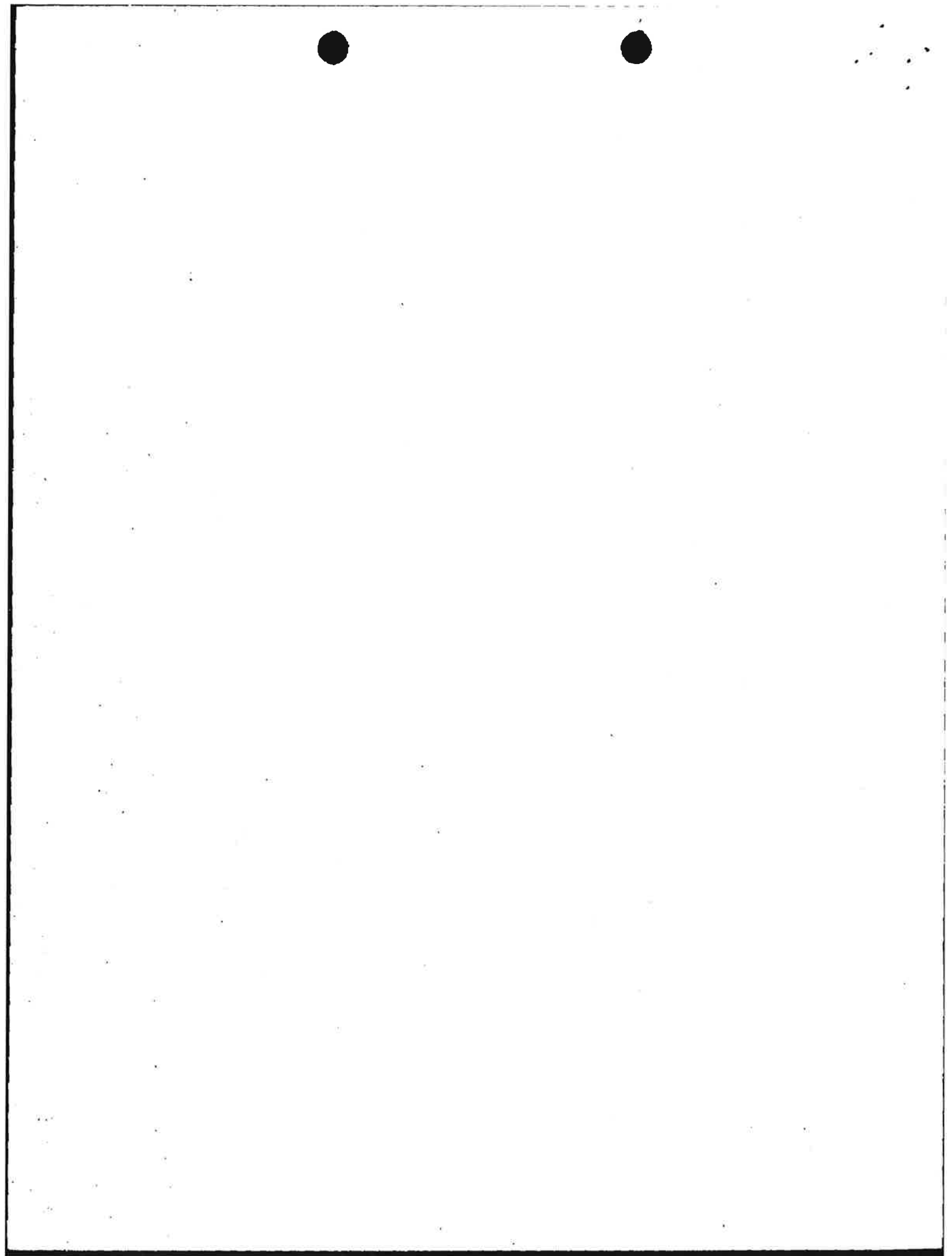
b) Activity contained in plant sludge only.

c) Activity contained in plant sludge, KOH batch waste, and strip solutions.

d) Based on quantities reported by C&B-11 analysis of raffinate waste.

Received by ER-RPF

JUN 21 1993



Appendix E

CMP Retrievable Storage Log Area T, TA-21-257

**CMP Numbers 1150 – 1266,
Filled 12/31/75 – 12/15/77**

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CMP Retrievable Storage Log

Area T, TA-21-257

CMP No.	Pug Mill Run No.	Initial Depth (m)	Final Depth (m)	Date Filled	Volume of Paste During Retrev.Part	Vol/Paste After Non-Retrev. Part Started
001150	369	5.44	.28	12/31/75	2351	0
001151	369	5.79	.18	12/31/75	2212	347
001152	371	5.76	.31	1/16/76	2247	255
001153	371	5.74	.29	1/16/76	2484	0
001154	372	5.74	.28	1/23/76	2067	422
001155	372	5.72	.25	1/23/76	2490	0
001156	372	5.69	.28	1/23/76	2467	0
001157	372 & 373	5.64	.31	2/ 5/76	1980	452
001158	373	5.79	.28	2/ 5/76	2512	0
001159	373	5.59	.28	2/ 5/76	2420	0
001160	373 & 377	5.59	.28	2/26/76	2097	324
001161	377	5.74	.23	2/26/76	2513	0
001162	377	5.79	.28	2/26/76	2513	0
001163	377 & 379	5.63	.32	3/16/76	1419	973
001164	379	5.49	.31	3/16/76	2363	0
001165	379	5.94	.31	3/16/76	2571	0
001166	379 & 380	5.69	.28	4/ 6/76	1645	823
001167	380	5.64	.33	4/ 6/76	2420	0
001168	380	5.64	.31	4/ 6/76	2432	0
001169	380 & 382	5.51	.31	4/23/76	1876	498
001170	382	5.64	.28	4/23/76	2444	0
001171	382	5.69	.28	4/23/76	2467	0
001172	382 & 386	5.69	.31	5/19/76	1795	660
001173	386	5.64	.31	5/19/76	2432	0
001174	386	5.69	.31	5/19/76	2455	0
001175	386	5.51	.31	5/19/76	2374	0
001176	386 & 387	5.49	.31	6/ 8/76	1807	625
001177	387	5.79	.31	6/ 8/76	2507	0
001178	387	5.54	.31	6/ 8/76	2386	0
001179	387 & 390	5.51	.31	7/13/76	1587	800
001180	390	4.60	.36	7/13/76	1934	0
001181	390	5.33	.25	7/13/76	2316	0
001182	390 & 391	5.33	.33	7/20/76	1493	788
001183	391	5.13	.33	7/20/76	2189	0
001184	391	5.66	.33	7/20/76	2432	0
001185	391	5.44	.33	7/20/76	2328	602
001186	394	5.61	.36	8/26/76	2293	116
001187	394	5.53	.31	8/26/76	2386	0
001188	394	5.58	.28	8/26/76	2421	0
001189	394 & 395	5.61	.46	10/ 5/76	1633	718
001190	395	5.79	.46	10/ 5/76	2432	0
001191	395	5.54	.31	10/ 5/76	2385	0
001192	395 & 396	5.79	.31	10/13/76	2502	382
001193	396	5.77	.31	10/13/76	2490	0
001194	396	5.79	.33	10/13/76	2490	0
001195	396 & 397	5.74	.31	11/ 5/76	1644	834
001196	397	5.72	.36	11/ 5/76	2444	0
001197	397	5.74	.38	11/ 5/76	2444	0

CMP Retrievable Storage Log
- Radioactivity -
Area T, TA-21-257

Cand No.	Pug Mill Run No.	Date Filled	Date Capped	Radioactivity ⁽¹⁾			
				²³⁸ Pu (Ci)	²³⁹ Pu (Ci)	²⁴¹ Am (Ci)	Tot. β-γ (mCi)
001150	369	12/31/75	4/21/76	.05	.9	9.9	2.55
001151	369	12/31/75	4/21/76	.05	.9	9.2	2.40
001152	369 & 371	1/16/76	4/21/76	.04 (tot.)	.9 (tot.)	18.9 (tot.)	3.03 (tot.)
001153	371	1/16/76	4/21/76	.04	.9	20.9	3.04
001154	371 & 372	1/23/76	4/21/76	.04	.83 + .05	18.4 + 2.5	2.67 + .04
001155	372	1/23/76	4/21/76	.04	.4	20.4	.35
001156	372	1/23/76	4/21/76	.04	.4	20.2	.35
001157	372 & 373	2/ 5/76	4/21/76	.023 + .02	.24 + .10	12.23 + 9.38	.21 + .32
001158	373	2/ 5/76	4/21/76	.05	.28	25.1	.85
001159	373	2/ 5/76	4/21/76	.05	.27	24.2	.81
001160	373 & 377	2/26/76	4/21/76	.02 + .05	.13 + .24	11.7 + 12.5	.39 + .11
001161	377	2/26/76	4/21/76	.09	.48	25.1	.22
001162	377	2/26/76	4/21/76	.09	.48	25.1	.22
001163	377 & 379	3/16/76	4/21/76	.04 + .02	.21 + .24	11.1 + 5.0	.1 + .14
001164	379	3/16/76	4/21/76	.04	.44	9.1	.27
001165	379	3/16/76	4/21/76	.04	.48	9.9	.29
001166	379 & 380	4/ 6/76	4/21/76	.01 + .04	.17 + .35	3.6 + 5.2	.10 + .07
001167	380	4/ 6/76	4/21/76	.06	.56	8.2	.12
001168	380	4/ 6/76	4/21/76	.06	.56	8.2	.12
001169	380 & 382	4/23/76	6/17/76	.02 + .08	.20 + .49	3.0 + 7.8	.04 + .09
001170	382	4/23/76	6/17/76	.14	.85	13.5	.16
001171	382	4/23/76	6/17/76	.14	.85	13.5	.16
001172	382 & 386	5/19/76	6/17/76	.09 + .02	.55 + .19	8.7 + 7.6	.10 + .12
001173	386	5/19/76	6/17/76	.06	.56	22.1	.34
001174	386	5/19/76	6/17/76	.06	.57	22.3	.34
001175	386	5/19/76	6/17/76	.06	.55	21.6	.33
001176	386 & 387	6/ 8/76	6/17/76	.02 + .22	.16 + .02	6.3 + 5.8	.10 + .26
001177	387	6/ 8/76	6/17/76	.32	.02	8.3	.37
001178	387	6/ 8/76	6/17/76	.30	.02	7.9	.35
001179	387 & 390	7/13/76	10/ 4/76	.16 + .01	.01 + .15	4.2 + 6.1	.19 + .96
001180	390	7/13/76	10/ 4/76	.02	.26	10.5	1.67
001181	390	7/13/76	10/ 4/76	.03	.31	12.6	2.00
001182	390 & 391	7/20/76	10/ 4/76	.02 + .00	.29 + .02	11.6 + .8	1.84 + .09
001183	391	7/20/76	10/ 4/76	.05	.31	10.9	1.29
001184	391	7/20/76	10/ 4/76	.05	.35	12.1	1.43
001185	391	7/20/76	10/ 4/76	.05	.33	11.6	1.44
001186	394	8/26/76	10/ 4/76	0 + ~.04	.02 + ~.30	.6 + 13.7	.02 + ~2.0
001187	394	8/26/76	10/ 4/76	~.04	~.31	14.3	~2.10
001188	394	8/26/76	10/ 4/76	~.04	~.32	14.5	~2.13
001189	394 & 395	10/ 5/76	12/15/76	~.01 + .25	~.11 + .30	5.1 + 16.6	~.74 + 6.39
001190	395	10/ 5/76	12/15/76	.40	.49	26.8	10.31
001191	395	10/ 5/76	12/15/76	.39	.48	26.3	10.11
001192	395 + 396	10/13/76	12/15/76	.16 + .19	.19 + .36	3.3 + 24.9	4.13 + 4.3
001193	396	10/13/76	12/15/76	.32	.58	40.5	7.12
001194	396	10/13/76	12/15/76	.32	.58	40.5	7.12
001195	396 + 397	11/ 5/76	12/15/76	.12 + .10	.23 + .39	16.02 + 13.8	2.8 + .55
001196	397	11/ 5/76	12/15/76	.17	.64	22.6	.90
001197	397	11/ 5/76	12/15/76	.17	.64	22.6	.90

(1) ²⁴¹Am numbers based on H-7 analysis of Pug Mill Feed Solutions.

CMP Retrievable Storage Log

Area T, TA-21-257

CMP No.	Pug Mill Run No.	Initial Depth (m)	Final Depth (m)	Date Filled	Volume of Paste During Retrev. Part	Vol/Paste After Non-Retrev. Part Starte
001198	397 & 399	5.66	.28	11/18/76	1714	741
001199	399	5.72	.31	11/18/76	2467	
001200	399	5.79	.31	11/18/76	2502	
001201	399 & 400	5.66	.41	11/24/76	1680	718
001202	400	5.77	.38	11/24/76	2456	
001203	400	5.79	.31	11/24/76	2502	
001204	400 & 401	5.79	.41	12/21/76	1621	834
001205	401	5.84	.33	12/21/76	2512	
001206	401	5.49	.31	12/21/76	2363	
001207	401 & 402	5.66	.36	12/27/76	2015	405
001208	402 & 404	5.82	.38	1/28/77	2177	
001209	402 & 404	5.82	.33	1/28/77	2328	
001210	402 & 404	5.77	.30	1/28/77	2488	764
001211	404 & 406	5.30	.28	2/10/77	1554	730
001212	406	5.31	.41	2/10/77	2236	
001213	406	5.23	.36	2/10/77	2223	
001214	406	5.47	.36	2/10/77	2334	
001215	406 & 408	5.31	.43	3/10/77	1471	753
001216	408	5.58	.43	3/10/77	2345	
001217	408	5.41	.46	3/10/77	2259	
001218	408 & 411	5.03	.25	4/14/77	1448	730
001219	411	5.36	.25	4/14/77	2328	
01220	411	5.39	.25	4/14/77	2340	
001221	411 & 412	5.49	.28	5/3/77	1660	715
001222	412	5.49	.28	5/3/77	2374	
001223	412	5.33	.23	5/3/77	2328	
001224	412	5.39	.23	5/3/77	1670	695
001225	413	5.28	.23	5/5/77	2305	
001226	413	5.38	.23	5/5/77	2351	
001227	413	5.44	.25	5/5/77	2016	347
001228	413 & 415	5.41	.25	5/26/77	2050	301
001229	415	5.51	.25	5/26/77	2397	
001230	415	5.49	.25	5/26/77	2154	232
001231	415 & 416	5.49	.25	6/14/77	1552	834
001232	416	5.44	.25	6/14/77	2363	
001233	416	5.64	.25	6/14/77	2456	
001234	418	5.36	.30	7/7/77	2305	
001235	416 & 418	5.33	.25	7/7/77	1552	765
001236	420	5.06	.25	8/26/77	2189	
001237	418	4.90	.25	7/7/77	2119	
001238	418	5.49	.33	7/7/77	1656	695
001239	420	5.23	.38	8/26/77	2212	
001240	420	5.38	.28	8/26/77	2328	
001241	420 & 421	5.33	.31	9/8/77	1552	741
01242	421	5.31	.31	9/8/77	2281	
001243	422	5.28	.25	9/21/77	2293	
001244	421	5.99	.33	9/8/77	2583	
001245	421 & 422	5.99	.33	9/21/77	1886	696

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CMP Retrievable Storage Log
- Radioactivity -
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CMP No.	Pug Mill Run No.	Date Filled	Date Capped	Radioactivity			
				^{238}Pu (Ci)	^{239}Pu (Ci)	^{241}Am (Ci)	Tot. β - γ (mCi)
1198	397 & 399	11/18/76	12/15/76	.05 + .11	.20 + .55	7.1 + 8.4	.28 + .46
001199	399	11/18/76	12/15/76	.17	.80	12.2	.67
001200	399	11/18/76	12/15/76	.17	.81	12.4	.68
001201	399 & 400	11/24/76	12/15/76	.06 + 1.52	.29 + .30	4.4 + 4.6	.24 + .70
001202	400	11/24/76	12/15/76	2.49	.49	7.5	1.19
001203	400	11/24/76	12/15/76	2.53	.50	7.6	1.19
001204	400 & 401	12/21/76	3/17/77	1.31 + .09	.26 + .31	3.9 + 3.5	.63 + .48
001205	401	12/21/76	3/17/77	.20	.68	7.6	1.04
001206	401	12/21/76	3/17/77	.19	.64	7.2	.98
001207	401 & 402	12/27/76	3/17/77	.09 + .01	.29 + .03	3.3 + 6.0	.45 + .13
001208	402 & 404	1/28/77	3/17/77	0 + .01	0 + .03	.3 + 23.8	.01 + .45
001209	402 & 404	1/28/77	3/17/77	0 + .01	0 + .04	0 + 26.5	0 + .50
001210	402 & 404	1/28/77	3/17/77	.01 + .01	.04 + .02	8.3 + 15.6	.18 + .29
001211	404 & 406	2/10/77	3/17/77	.01 + 0.0	.03 + .01	24.7 + 2.6	.47 + .75
001212	406	2/10/77	3/17/77	.04	.21	74.2	21.72
001213	406	2/10/77	3/17/77	.04	.21	74.2	21.72
001214	406	2/10/77	3/17/77	.04	.22	79.3	23.22
001215	406 & 408	3/10/77	3/17/77	.01 + .01	.07 + .14	25.6 + 57.6	7.5 + .46
001216	408	3/10/77	3/17/77	.02	.21	90.6	.72
001217	408	3/10/77	3/17/77	.02	.21	87.8	.70
001218	408 & 411	4/14/77	6/23/77	.01 + .00	.10 + .01	41.2 + 1.6	.33 + 1.13
001219	411	4/14/77	6/23/77	.00	.01	3.5	2.36
1220	411	4/14/77	6/23/77	.00	.00	3.5	2.37
001221	411 & 412	5/3/77	6/23/77	.00 + .06	.01 + .12	2.6 + 17.9	1.76 + .95
001222	412	5/3/77	6/23/77	.23	.47	69.5	3.67
001223	412	5/3/77	6/23/77	.23	.45	67.3	3.55
001224	412	5/3/77	6/23/77	.23	.47	69.5	3.67
001225	413	5/5/77	6/23/77	.08	.32	108.7	.36
001226	413	5/5/77	6/23/77	.08	.33	112.2	.37
001227	413	5/5/77	6/23/77	.08	.33	112.2	.37
001228	413 & 415	5/26/77	6/23/77	.01 + .19	.04 + .13	14.0 + 76.7	.05 + .15
001229	415	5/26/77	6/23/77	.22	.15	88.1	.17
001230	415	5/26/77	6/23/77	.22	.15	88.1	.17
001231	415 & 416	6/14/77	6/23/77	.08 + .03	.05 + .11	31.3 + 66.6	.06 + .17
001232	416	6/14/77	6/23/77	.04	.17	101.7	.26
001233	416	6/14/77	6/23/77	.04	.18	108.7	.27
001234	418	7/7/77	10/13/77	.26	.55	146.6	.23
001235	416 & 418	7/7/77	10/13/77	.03 + .07	.12 + .16	73.6 + 42.6	.18 + .07
001236	420	8/26/77	10/13/77	.18	.28	185.6	1.28
001237	418	7/7/77	10/13/77	.23	.49	132.4	.20
001238	418	7/7/77	10/13/77	.27	.56	151.3	.23
001239	420	8/26/77	10/13/77	.18	.28	185.6	1.28
001240	420	8/26/77	10/13/77	.19	.29	192.0	1.33
001241	420 & 421	9/8/77	10/13/77	.08 + .03	.12 + .30	76.8 + 75.9	.53 + .48
001242	421	9/8/77	10/13/77	.06	.52	132.9	.84
1243	422	9/21/77	10/13/77	.07	.28	127.3	1.35
001244	421	9/8/77	10/13/77	.06	.58	147.1	.93
001245	421 & 422	9/21/77	10/13/77	.05 + .02	.47 + .07	118.7 + 31.4	.75 + .33

(1) ^{241}Am numbers based on H-7 Analysis of Pug Mill Feed Solutions.

CMP Retrievable Storage Log
- Radioactivity -
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