

**Waste Isolation Pilot Plant
Initial Report for
PCB Disposal Authorization
(40 CFR § 761.75[c])**

March 19, 2002

**Waste Isolation Pilot Plant Initial Report for PCB Disposal Authorization
DOE/WIPP 02-3196**

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1.0 INTRODUCTION

This initial report is being submitted pursuant to Title 40 *Code of Federal Regulations* (CFR) § 761.75(c) to request authorization to allow the disposal of transuranic (TRU) wastes containing polychlorinated biphenyls (PCBs) which are duly regulated under the Toxic Substances Control Act (TSCA). Approval of this initial report will not affect the disposal of TRU or TRU mixed wastes that do not contain PCBs. This initial report also demonstrates how the Waste Isolation Pilot Plant (WIPP) meets or exceeds the technical standards for a Chemical Waste Landfill. Approval of this request will allow the U.S. Department of Energy (DOE) to dispose of approximately 88,000 cubic feet (ft³) (2,500 cubic meters [m³]) of TRU wastes containing PCBs subject to regulation under the TSCA. This approval will include only those PCB/TRU wastes, which the TSCA regulations allow for disposal of the PCB component in municipal solid waste facilities or chemical waste landfills (e.g., PCB remediation waste, PCB articles, and bulk PCB product waste).

Disposal of TRU waste by the DOE is congressionally mandated in Public Law 102-579 (as amended by the National Defense Authorization Act for Fiscal Year 1997, Pub. L. 104-201, referred to as the WIPP Land Withdrawal Act [LWA]). Portions of the TRU waste inventory contain hazardous waste constituents regulated under 40 CFR Parts 260 through 279, and/or PCBs and PCB Items regulated under 40 CFR Part 761. Therefore, the DOE TRU waste program must address the disposal requirements for these hazardous waste constituents and PCBs.

To facilitate the disposal of TRU wastes containing hazardous waste constituents, the owner/operators received a Hazardous Waste Facility Permit (HWFP) from the New Mexico Environment Department (NMED) on October 27, 1999. The permit allows the disposal of TRU wastes subject to hazardous waste disposal requirements (TRU mixed waste). Informational copies of this permit and other referenced documents are available from the WIPP website at <http://www.wipp.ws/library/caolib.htm#RCRA>.

To facilitate the disposal of TRU wastes containing PCBs, the owner/operators are hereby submitting this initial report containing information required pursuant to the Chemical Waste Landfill Approval requirements in 40 CFR § 761.75(c). Although WIPP is defined as a miscellaneous unit and not a landfill by the New Mexico Hazardous Waste Act, WIPP meets or exceeds all applicable technical standards for chemical waste landfills by virtue of its design and programs as indicated in the Engineering Report (Attachment B). The layout of this initial report is consistent with requirements (i.e., Sections 2.0 through 12.0 following the sequence of 40 CFR § 761.75[c][i] -[ix] with sections added to discuss the Contingency and Training Plans; and Attachment B of this initial report addresses the requirements of 40 CFR § 761.75[b][1] through [9] in this order).

This initial report includes a description of three proposed changes that will be subject to "conditional approval." The first will allow the disposal of remote-handled (RH) PCB/TRU waste at WIPP. The second will allow the establishment of a central confirmation facility at WIPP. The third will allow for an increase in contact-handled (CH) waste storage

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capacities. These proposed changes are discussed further in Section 3.3 of this initial report. "Conditional approval" of these requests would allow these activities at WIPP contingent upon:

- C Approval of the HWFP modification (NMED) and Compliance Certification Application (CCA) change request (Environmental Protection Agency [EPA])
- C Inspection of facility prior to implementing the change (if deemed necessary by the EPA)
- C Written approval from the EPA

This initial report also includes the following three requests for waivers to the technical requirements for Chemical Waste Landfills pursuant to 40 CFR § 761.75(c)(4):

- C Hydrologic Conditions (40 CFR § 761.75[b][3])
- C Monitoring Systems (40 CFR § 761.75[b][6])
- C Leachate Collection (40 CFR § 761.75[b][7])

The details explaining the purpose and scope of these waivers are addressed by Attachment B to this initial report.

1.1 Definitions

Unless otherwise expressly provided herein, the terms used in this initial report shall have the meaning set forth in TSCA and/or their implementing regulations.

- C "Contact-handled transuranic waste" (CH TRU waste) means transuranic waste with a surface dose rate not greater than 200 millirem per hour. [LWA]
- C "Facility" means the Waste Isolation Pilot Plant (WIPP) owned by the DOE and located approximately twenty-six (26) miles southeast of Carlsbad, New Mexico (Attachment A, Figure 1), EPA I.D. Number NM4890139088. The WIPP facility comprises the entire complex within the WIPP Site Boundary as specified in the WIPP LWA, including all contiguous land, and structures, other appurtenances, and improvements to be used for management, storage, or disposal of PCB/TRU waste.
- C "Owner/Operators" means the United States Department of Energy (DOE), an agency of the federal government, and the owner and co-operator of the WIPP facility; and Westinghouse TRU Solutions LLC, management and operating contractor (MOC) and co-operator of the WIPP facility.

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- C "PCB/TRU waste" refers to any TRU (radioactive) waste commingled with PCBs (>50 ppm) that may or may not contain hazardous constituents subject to regulation under the New Mexico Hazardous Waste Act.

- C "Remote-handled transuranic waste" (RH TRU waste) means transuranic waste with a surface dose rate 200 millirem per hour or greater. [LWA]

- C "TRU waste" means waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for (A) high-level radioactive waste; (B) waste that the DOE Secretary has determined, with the concurrence of the EPA Administrator, does not need the degree of isolation required by the disposal regulations; or (C) waste that the Nuclear Regulatory Commission (NRC) has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61. [Pub. L. 102-579 (1992)]

- C "TRU mixed waste" means TRU waste that is also a hazardous waste as defined by the Hazardous Waste Act and 20 New Mexico Administrative Code (NMAC) 4.1.200 (incorporating 40 CFR § 261.3).

2.0 LOCATION OF THE DISPOSAL FACILITY (40 CFR § 761.75[c][1][i])

Name of Facility: Waste Isolation Pilot Plant

Owner and Co-Operator: U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

Co-Operator: Westinghouse TRU Solutions, LLC
P.O. Box 2078
Carlsbad, NM 88221

Responsible Officials: Inés Triay, Manager
DOE Carlsbad Field Office

John Lee, General Manager
Westinghouse TRU Solutions LLC

Facility Mailing Address: U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

Facility Location: 26 miles southeast of Carlsbad in Eddy County, NM
(Attachment A, Figure 1)

Telephone Number: (505) 234-7300

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U.S. EPA I.D. Number: NM4890139088

Geographic Location: 32° 22' 30" N; 103° 47' 30" W

Date Operations Began: March 26, 1999

3.0 DETAILED DESCRIPTION OF THE DISPOSAL FACILITY (40 CFR § 761.75[c][1][ii])

WIPP is a facility designed to safely manage, store, and dispose of TRU and TRU mixed waste. Currently, only CH TRU and TRU mixed wastes are permitted by the NMED for storage or disposal at the WIPP facility; however, the owner/operators are requesting “conditional approval” of the proposed changes described below. PCB/TRU wastes will be stored in areas permitted under the HWFP.

The following description of the disposal facility is from the WIPP HWFP, Attachment A. Attachments F and M1 of the WIPP HWFP provide a more detailed description of the buildings/sections of the facility.

3.1 Property Description

The WIPP facility has been divided into functional areas as indicated in Attachment A, Figure 2. The Property Protection Area (PPA) is surrounded by a chain-link security fence, encompasses 34.16 acres, and provides security and protection for all major surface structures. The WIPP Off-Limits Area (not depicted) encloses the PPA, and contains approximately 1,454 acres. These areas define the WIPP exclusion zone within which certain activities, items, and material are prohibited. The final zone is marked by the WIPP Site Boundary (WIPP land withdrawal area) a 16-section federal land area under the jurisdiction of the DOE.

3.2 Facility Type

Three basic groups of structures are associated with the WIPP facility: surface structures, shafts, and underground structures. The layout and relative positions of these structures are illustrated in Attachment A, Figure 3.

The surface structures will accommodate the personnel, equipment, and support services required for the receipt, preparation, and transfer of PCB/TRU waste from the surface to the underground. There are two surface locations where PCB/TRU waste will be managed. The first area designated for managing PCB/TRU waste is the Parking Area Container Storage Unit (Parking Area Unit), an outside waste container storage area that extends south from the Waste Handling Building (WHB) to the railroad tracks (Attachment A, Figure 4). The Parking Area Unit provides storage space for loaded shipping containers with up to 1,591 ft³ (45 m³) of waste on an asphalt and concrete surface encompassing approximately 115,000 square feet (ft²). The second area includes a

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portion of the WHB, of which 33,175 ft² are designated as the WHB Container Storage Unit (WHB Unit) for PCB/TRU waste management (Attachment A, Figure 5).

Four vertical shafts connect the surface facility to the underground (Attachment A, Figure 3). These are the waste shaft, the salt handling shaft, the exhaust shaft, and the air intake shaft. The waste shaft is the only shaft used to transport waste to the underground. The WIPP underground structures are located in a mined salt bed 2,150 ft below the surface. The underground structures (Attachment A, Figure 6) include the underground Hazardous Waste Disposal Units (HWDU), an area for future underground HWDUs, the shaft pillar area, interconnecting drifts, and other areas unrelated to the HWFP and this initial report.

The underground HWDUs are defined as waste panels 1 through 8, each consisting of seven rooms and two access drifts. These access drifts are designated as panels 9 and 10 and will be used for waste emplacement once they are no longer necessary as access drifts. Each of the seven rooms in a panel is approximately 300 ft long, 33 ft wide, and 13 ft high; the rooms are separated by 100-ft-thick salt columns. Panel 1 is expected to be filled by January 2003, after which each subsequent panel will take approximately 2.5 years to fill after emplacement is initiated. These estimates are based on current and projected wastes shipping and emplacement rates. Currently, only panels 1 and 2 have been mined. Additional panels will be mined as needed in the future.

General site plans are included as Attachment A of this initial report.

3.3 Proposed Changes

Under TSCA Chemical Waste Landfill Approval (40 CFR § 761.75), there is no formal process to request changes or modification to an approval. As a result, the EPA suggested that the owner/operators could request inclusion of a "conditional approval process" for proposed changes that will impact the information contained in this initial report. The owner/operators are therefore requesting "conditional approval" that the following planned facility modifications be considered as candidates for the conditional approval process:

- C Allow the storage and disposal of RH PCB/TRU wastes at WIPP.
- C Allow the establishment of a central confirmation facility at WIPP.
- C Flexibility to the storage capacities for CH PCB/TRU wastes.

"Conditional approval" of these requests would allow these changes at WIPP contingent upon:

- C Approval of the HWFP modification (NMED) and Compliance Certification Application (CCA) change request (Environmental Protection Agency [EPA]).

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- C Inspection of facility prior to implementing the change (if deemed necessary by the EPA).
- C Written approval from the EPA Region VI.

3.3.1 RH PCB/TRU Wastes

Approval of the RH PCB/TRU waste request will provide for safe disposal of these wastes. In addition, this change will provide for additional storage capacity in the Parking Area Unit and additional space in the WHB designated for the management of RH TRU wastes. This additional space in the WHB will provide for storage in the RH Bay, the Cask Unloading Room, the Hot Cell, the Transfer Cell, and the Facility Cask Loading Room. The operations plan for the management of these RH PCB/TRU wastes is described in Attachment B of this initial report.

3.3.2 Central Confirmation Facility

Approval of the central confirmation facility request will allow confirmation of DOE generator/storage site waste characterization at WIPP. In addition, this change will provide for an increased storage capacity necessary to facilitate the confirmation process. The increase will include additional space in the WHB designated for the management of CH TRU wastes awaiting confirmation. This additional space in the WHB will provide for storage in the Northwest Storage Area (Room 108), the Waste Container Storage Area, and Room 112. The operations plan describing the central confirmation process is included in Attachment B of this initial report.

3.3.3 Additional Changes

In the future, the owner/operators plan to seek additional storage capacity increases for CH PCB/TRU wastes. These changes will be based on safety and operational efficiency concerns. Under this conditional approval, increased storage capacities may be requested for existing storage areas (e.g., northeast storage area, shielded storage area, and TRUPACT-II dock [TRUDOCK] storage area) and/or new storage areas. The extent of the increase in storage has not been determined; however, it will be limited by other requirements such as safety, aisle space, emergency response, and equipment movement. These changes will not impact the operations plan except to increase storage capacities.

4.0 ENGINEERING REPORT ON TECHNICAL STANDARDS FOR CHEMICAL WASTE LANDFILLS (40 CFR § 761.75[c][1][iii])

A report outlining WIPP's compliance with Chemical Waste Landfill requirements is outlined in the Engineering Report (Attachment B of this initial report).

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**5.0 SAMPLING AND MONITORING EQUIPMENT AND FACILITIES AVAILABLE
(40 CFR § 761.75[c][1][iv])**

Although this information is required in accordance with 40 CFR § 761.75(c)(1)(iv), the owner/operators are requesting a waiver to the requirements to the Monitoring Systems 40 CFR § 761.75(b)(6) as addressed in Attachment B of this initial report.

To meet the requirements of Modules IV and V of the HWFP, equipment, training, and personnel are available for sampling and monitoring volatile organic compound emissions, groundwater quality, and groundwater levels at the WIPP site. Under the HWFP, the owner/operators have also performed a background groundwater quality baseline as required by Module V of the HWFP. The report outlining the results of this 2.5-year study (including PCBs) was completed and submitted in April 1998. The baseline study was performed using the seven water quality sampling program wells currently used for groundwater quality monitoring, and indicated that no PCBs were detected.¹ In addition to groundwater quality monitoring, groundwater level measurements are taken periodically at numerous area wells to evaluate hydrologic conditions around the WIPP site.

Monitoring and sampling equipment includes two air quality monitoring stations in the underground, one upstream from the disposal area, and one downstream. In addition, there are seven groundwater monitoring wells; four wells are down-gradient and three are up-gradient of the repository. The owner/operators also have necessary equipment to collect, package, and transfer samples for analysis. Currently, the owner/operators conduct radiochemical analyses of smears, air filters, and bioassay samples on site; all other samples are sent to off-site laboratories.

**6.0 EXPECTED WASTE VOLUMES OF PCB/TRU WASTE
(40 CFR § 761.75[c][1][v])**

Under the Land Withdrawal Act, WIPP will receive no more than 6.2 ft³ (175,600 m³) of waste. Ten panels will be constructed and used to dispose of waste. Only panels 1 through 3 are covered under the current HWFP. Each underground HWDU has seven rooms separated by pillars 100 ft wide (Attachment A, Figure 6). The HWFP limits the volume of waste to be emplaced in each panel to 636,000 ft³ (18,000 m³), or 81,000 drum equivalents.

Approval of this request will allow the DOE to dispose of TRU wastes containing PCBs subject to regulation under the TSCA. This approval will include only those PCB/TRU wastes, which the TSCA regulations allow for disposal of the PCB component in municipal solid waste facilities or chemical waste landfills (e.g., PCB remediation waste, PCB articles, and bulk PCB product waste). Of the TRU and TRU mixed waste currently

¹Waste Isolation Pilot Plant RCRA [Resource Conservation and Recovery Act] Background Groundwater Quality Baseline Report, DOE/WIPP 98-2285, April 1998

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awaiting disposal at WIPP, only a small portion is known to contain PCBs. Additional quantities of PCB/TRU waste are expected to be generated during decontamination and decommissioning activities at DOE facilities. Current projections estimate the total quantity (existing and future) of PCB/TRU wastes is 88,000 ft³ (2,500 m³).

PCB/TRU waste for shipment to WIPP will be characterized in accordance with the WIPP Waste Acceptance Criteria and the WIPP Waste Analysis Plan (Attachment B of the HWFP). The owner/operators do not plan to take waste samples and analyze them to determine the exact concentration of PCBs in waste; rather, the owner/operators will assume that the nonliquid PCB/TRU waste contains PCBs in concentrations greater than 500 ppm and will handle it accordingly (40 CFR § 761.50[a][5]). Liquid PCB/TRU waste will not be received/disposed at WIPP as described in Attachment B of this initial report.

7.0 GENERAL DESCRIPTION OF WASTE MATERIALS OTHER THAN PCBs (40 CFR § 761.75[c][1][vi])

WIPP is designed to safely dispose of TRU waste. Waste materials destined for WIPP are the byproducts of nuclear weapons production and have been identified in terms of waste streams based on the processes that produced them. The types of wastes to be received at WIPP are described in detail in 40 CFR Part 191, Compliance Certification Application (CCA), and Attachment B of the HWFP.

Under the HWFP, each waste stream identified by generators is assigned to a Waste Summary Category (*S3000—Homogeneous Solids, S4000—Soils/Gravel, and S5000—Debris Wastes*) to facilitate waste characterization, and to reflect the final waste forms acceptable for WIPP disposal.

In addition, waste may be generated at the WIPP facility as a direct result of managing the waste materials received from the off-site generators. Such waste may be generated in either the WHB or the underground. This waste is referred to as "derived waste." All such derived waste will be placed in the rooms in HWDUs along with the TRU waste for disposal. Hazardous wastes generated at WIPP, through activities where contact with TRU waste does not occur, are characterized, placed in containers, and stored until they are transported off site for treatment and/or disposal at a permitted facility in accordance with 20.4.1.300 NMAC (incorporating 40 CFR Part 262).

8.0 DISPOSAL FACILITY OPERATIONS PLAN (40 CFR § 761.75[c][1][vii])

The management and disposal of PCBs at WIPP will be consistent with the disposal operations for TRU mixed wastes set forth in Modules II, III, and IV of the WIPP HWFP. A description of the plan for PCB/TRU waste receipt, confirmation, and emplacement is included in Attachment B of this initial report.

9.0 FACILITY CONTINGENCY PLAN (40 CFR § 761.75[c][2])

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The response to spills, fires, or emergencies involving TRU mixed waste is described in the WIPP Contingency Plan included as Attachment F of the WIPP HWFP. This plan describes detailed response actions to incidents involving TRU and TRU mixed waste, as well as memorandums of understanding and mutual aid agreements with local emergency response organizations and other mines in the area. A review by WIPP emergency management will be conducted to ensure the plan adequately addresses response actions to incidents involving PCB/TRU waste.

In addition to the Contingency Plan, the owner/operators for WIPP also maintain several procedures for spill prevention, radiological and hazardous substance release response, environmental incident reporting, event response, and sampling to verify cleanup. These procedures are written in general terms to address emergency responses to radiological, hazardous substance, and PCB releases. These procedures have been developed to protect human health and the environment and to meet or exceed applicable environmental protection standards. Although no changes to these plans/procedures are anticipated, each plan/procedure will be reviewed to ensure compliance with the requirements in 40 CFR Part 761, Subpart G, prior to receiving any PCB/TRU waste.

10.0 FACILITY TRAINING PLAN (40 CFR § 761.75[c][2])

The training for facility personnel is described in Attachment H of the WIPP HWFP. Attachment H describes the type and frequency of training received by WIPP facility personnel. Three WIPP training courses are described below with the proposed changes needed to address the safe storage and disposal of PCB/TRU waste.

Each employee at the WIPP facility is trained and given instruction through a General Employee Training (GET) course. GET is provided to new employees and contractors to familiarize personnel with WIPP operations, rules of conduct, methods of communications, hazard recognition, safety culture, and other information as necessary. This training is designed to help employees recognize the various alarm signals, the significance of each, and the proper response to each. WIPP facility employees and site visitors are required to comply with directions from emergency personnel and alarm system notifications and to follow emergency evacuation routes and exits. GET also instructs employees in recognition of and adherence to postings and warnings. Information concerning the hazards of PCBs and posted warnings will be added to this training.

In addition, Hazardous Waste Worker and Hazardous Waste Responder training is provided in accordance with 29 CFR § 1910.120(p) and 40 CFR § 264.16. These courses are designed to ensure that workers understand the hazards associated with waste received and generated at the WIPP site. In addition, these courses instruct personnel on how to handle wastes safely under normal and emergency conditions and when to implement the Contingency Plan and emergency response procedures. These training courses will be modified to incorporate additional information concerning the hazards associated with PCBs.

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**11.0 LOCAL, STATE, OR FEDERAL PERMITS OR APPROVALS
(40 CFR § 761.75[c][1][viii])**

Attachment C of this initial report lists the local, state, and federal permits and approvals previously obtained.

**12.0 SCHEDULES OR PLANS FOR COMPLYING WITH THE APPROVAL
REQUIREMENTS (40 CFR § 761.75[c][1][ix])**

WIPP is currently permitted and operational for the receipt of CH TRU and CH TRU mixed wastes with most of the infrastructure and operations described in this initial report in place. Therefore, only changes to specifically address PCB waste management will be necessary. The following identify the types and schedule for completion of these changes/activities:

Emergency planning: No changes are anticipated in the emergency response plans/procedures, a review will be conducted to confirm the adequacy of these plans/procedures prior to making amendments to the training courses. Lessons learned from this review will be incorporated into the training courses, procedures, and/or plans. If changes are determined to be necessary to the Contingency Plan, these changes will be addressed in the HWFP modification to remove the current restriction on PCB wastes.

Training: General Employee, Hazardous Waste Worker, and Hazardous Waste Responder training courses will be amended to address PCBs. These amendments will be completed prior to receipt of PCB disposal approval. Employees will begin receiving this training following the approval of these amendments.

Area postings: PCBs warnings will be posted at the radiological access control points in the WHB and underground HWDU in accordance with 40 CFR § 761.45(a)(10) after receipt of the approval and prior to receiving PCB waste.

Record keeping: Receipt/disposal of PCB/TRU wastes will require several additional records as described in Attachment B of this initial report. These records will be maintained beginning with the receipt of the first drum containing PCBs.

Attachment A

General Site Plans and Design Drawings

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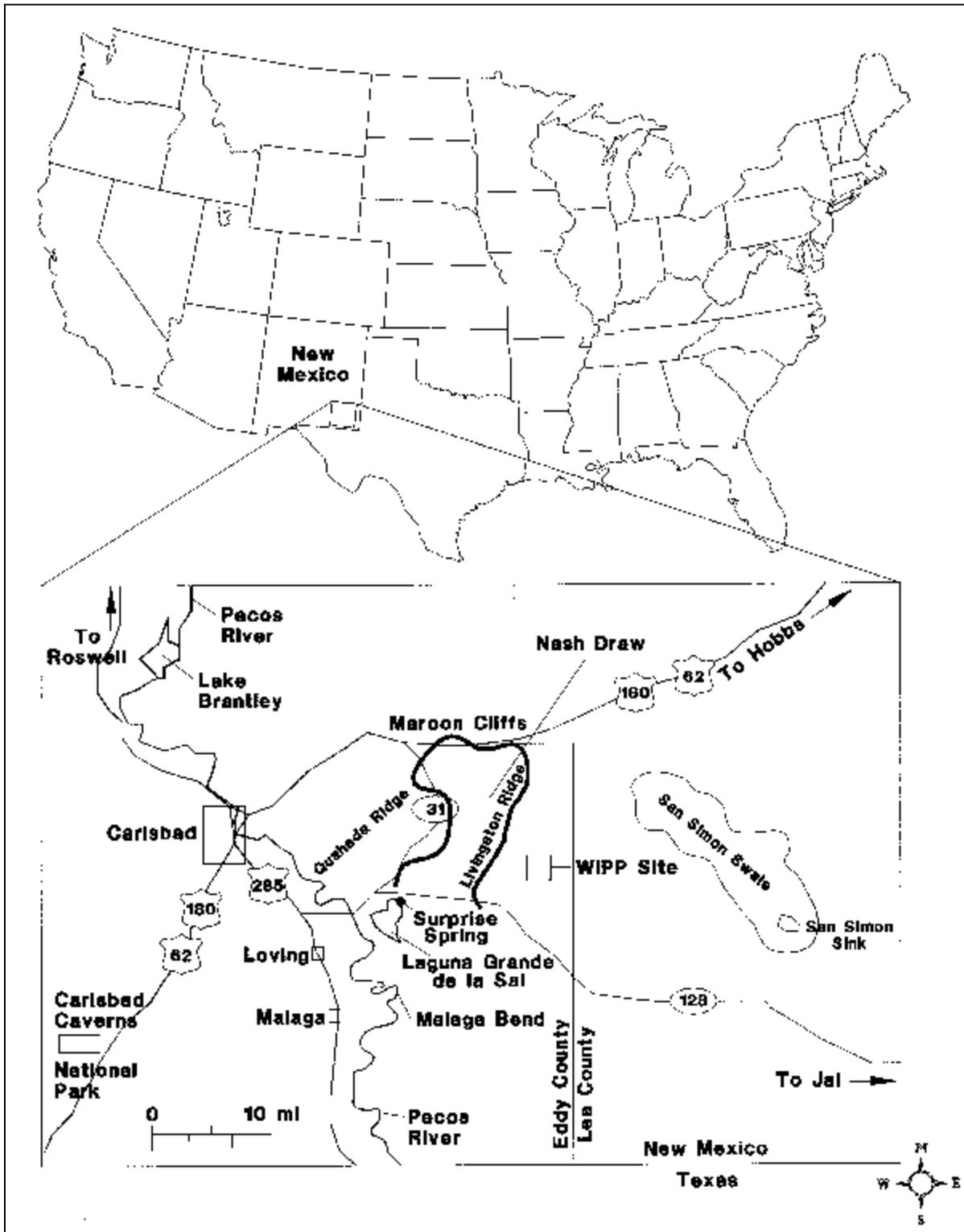


Figure 1. WIPP Facility Location

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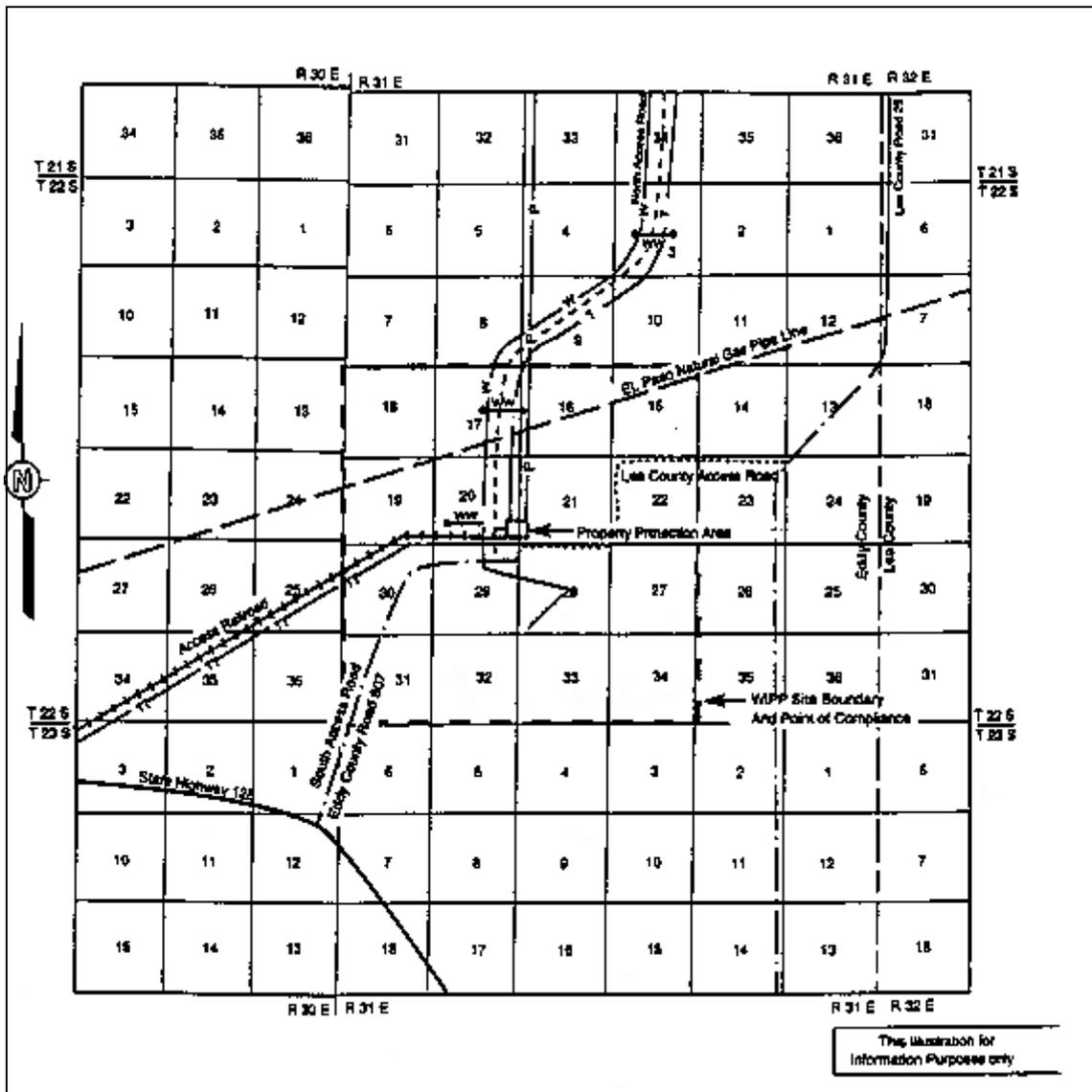


Figure 2. WIPP Facility Boundaries

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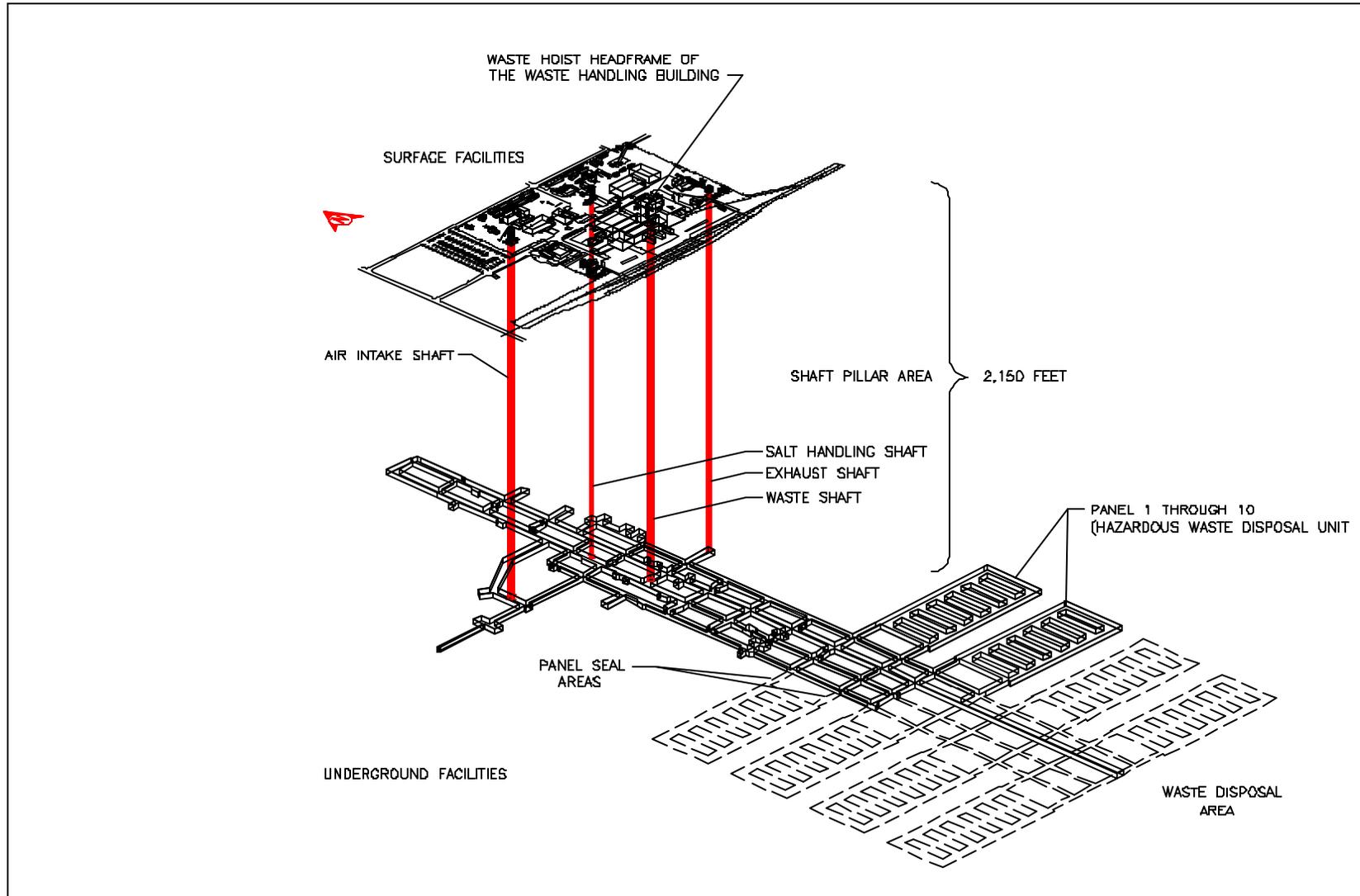


Figure 3. Spatial View of WIPP Facilities

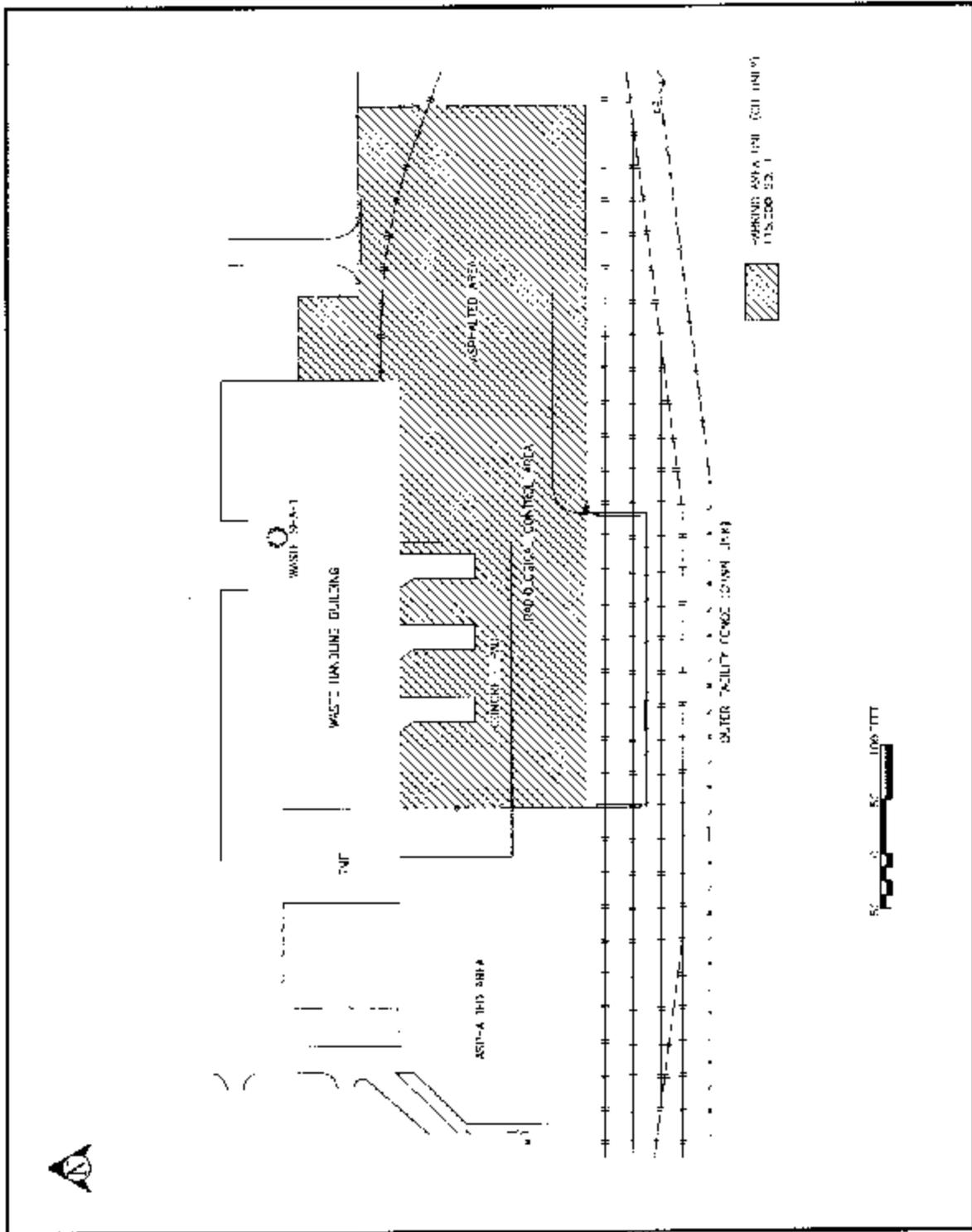


Figure 4. Parking Area-Container Storage Unit

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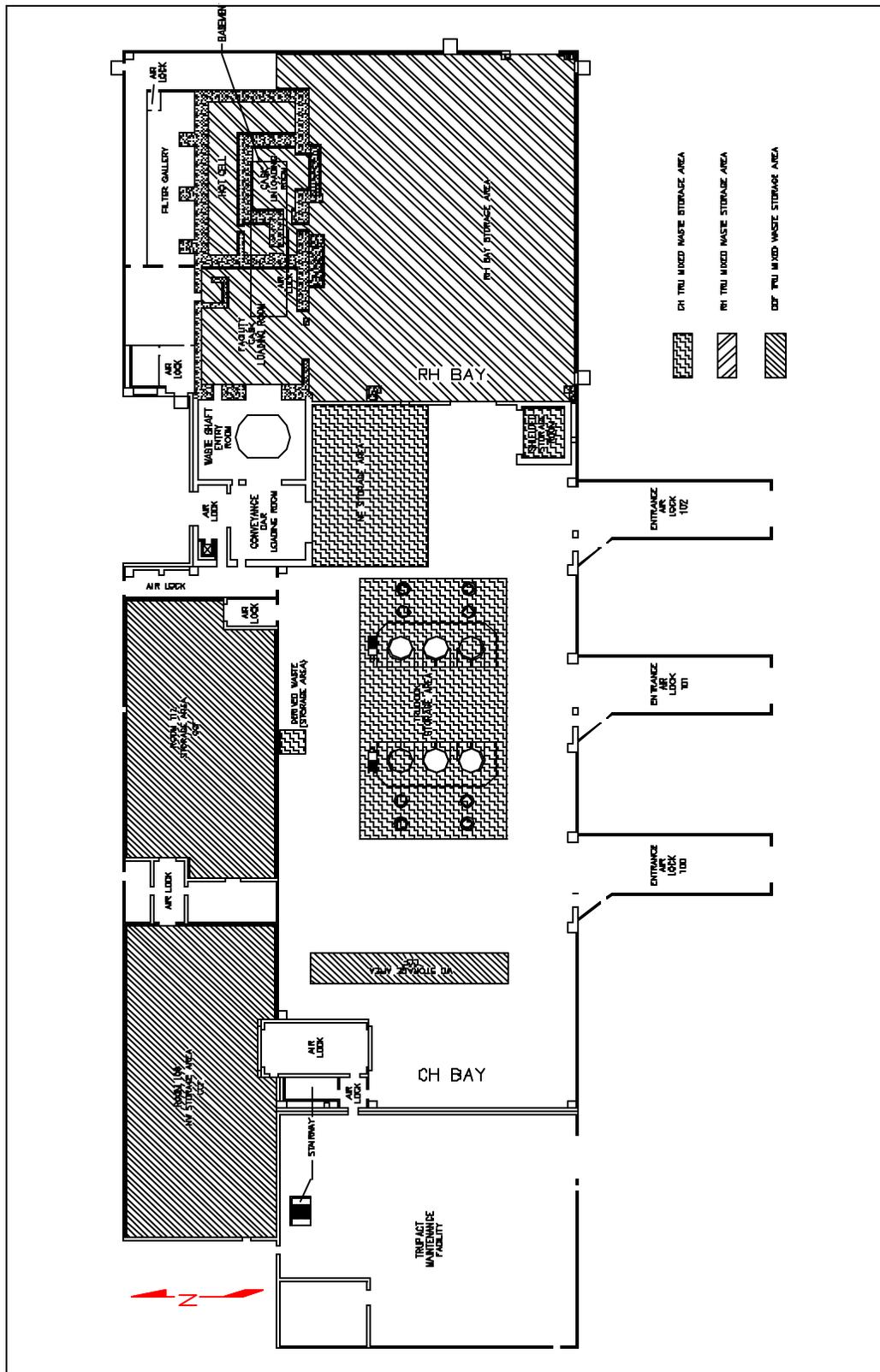


Figure 5. Waste Handling Building-Container Storage Unit

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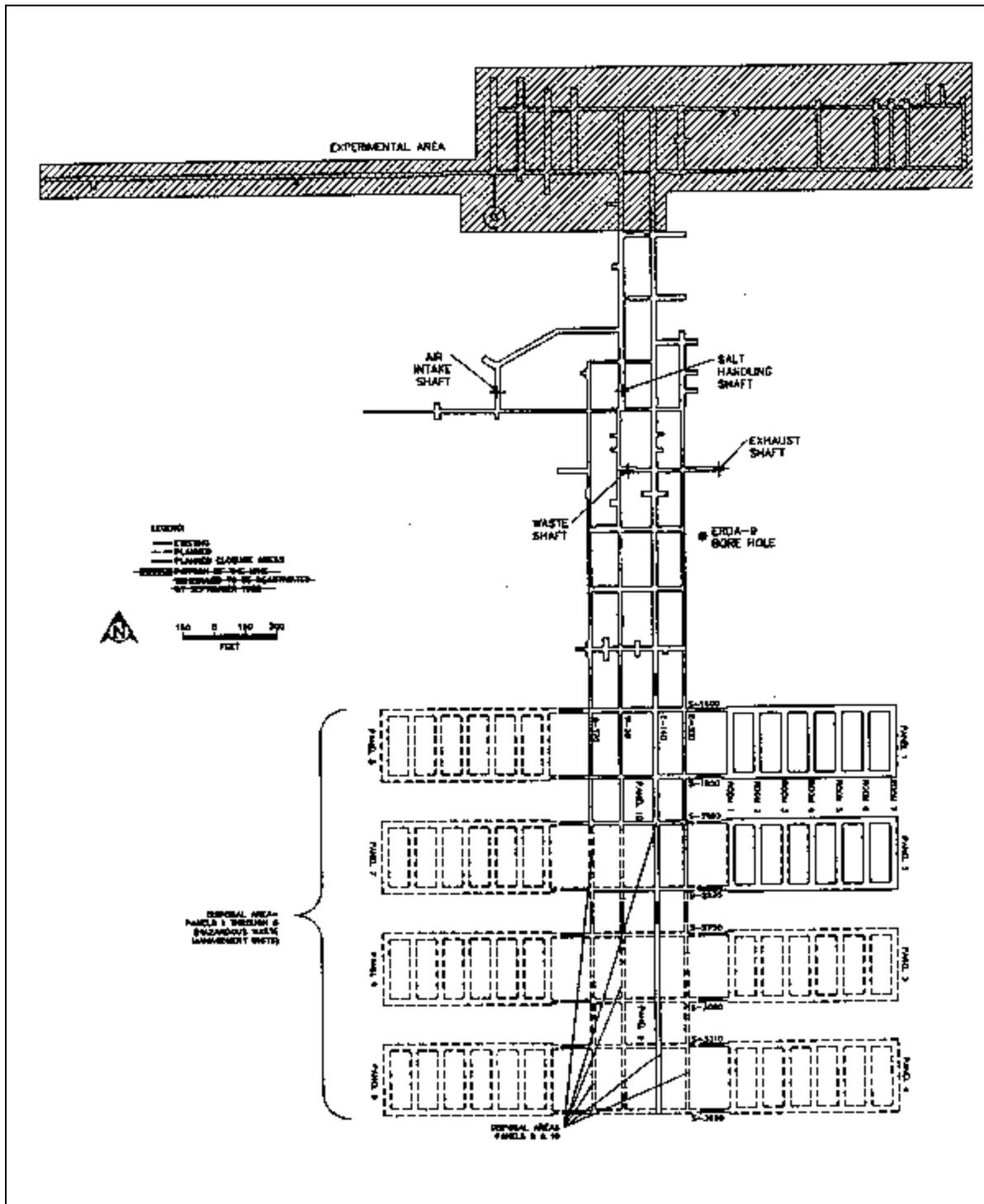


Figure 6. Underground Repository - Waste Disposal Area

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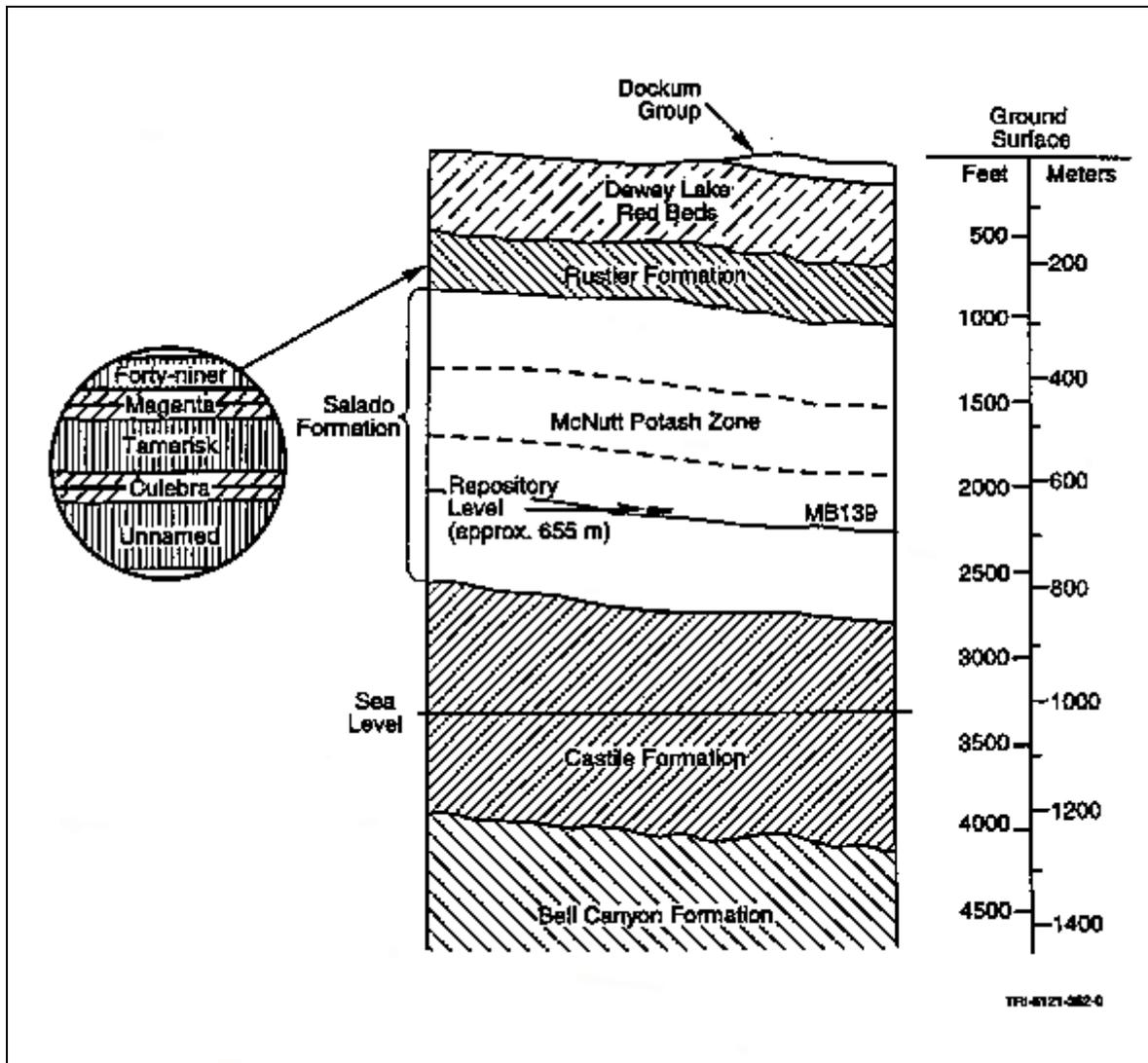


Figure 7. Generalized Stratigraphy of the WIPP Site Showing Repository Level

Attachment B

***Engineering Report Describing the Manner in Which WIPP Complies
with the Requirements for Chemical Waste Landfills***

ENGINEERING REPORT

WIPP Compliance with Technical Standards for Chemical Waste Landfill Disposal

Introduction

This engineering report is being submitted pursuant to Title 40 *Code of Federal Regulations* (CFR) § 761.75(c)(1)(iii) to demonstrate compliance with the applicable technical requirements for chemical waste landfills specified in 40 CFR § 761.75(b). While these regulations do not specifically provide for a deep geologic repository, such as the Waste Isolation Pilot Plant (WIPP), this section demonstrates how WIPP meets or exceeds these applicable technical requirements.

On May 18, 1998, the Environmental Protection Agency (EPA) certified that WIPP complies with the radioactive waste disposal regulations set forth in Subparts B and C of 40 CFR Part 191 and the site-specific WIPP compliance criteria at 40 CFR Part 194. The performance assessment, used by the owner/operator to comply with the disposal regulations, demonstrates that the waste will not migrate from the repository for 10,000 years. In addition, the owner/operators have obtained a Hazardous Waste Facility Permit (HWFP) from the New Mexico Environment Department (NMED) for the disposal of transuranic (TRU) mixed waste at WIPP.

This report also contains requests for waivers pursuant to 40 CFR § 761.75(c)(4) to three of the technical requirements: Hydrologic Conditions (40 CFR § 761.75[b][3]), Monitoring Systems (40 CFR § 761.75[b][6]), and Leachate Collection (40 CFR § 761.75[b][7]).

Soils (40 CFR § 761.75[b][1])

The WIPP disposal area is located in a thick, relatively impermeable formation of salt known as the Salado Formation (Attachment A, Figure 7). The Salado Formation consists mainly of halite and anhydrite. A considerable amount of information about the hydraulic properties of halite has been collected through field and laboratory experiments. Twenty-two hydraulic tests have been performed in impure halite, and two in pure halite. Interpreted permeabilities using a Darcy-flow model vary from 1×10^{-23} to 4×10^{-18} square meters for impure halite intervals. The converted values² for the Darcy-flow permeability values to the unit of measures employed to define conductance standards are represented below:

$$1 \times 10^{-23} \text{ m}^2 = 6 \times 10^{-15} \text{ cm/s}$$

$$4 \times 10^{-18} \text{ m}^2 = 2 \times 10^{-9} \text{ cm/s}$$

²WIPP Compliance Certification Application, § 2.2.1.3

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These values are converted from permeability to conductivity and are well below the required permeability value of 1×10^{-7} cm/sec in 40 CFR § 761.75(b)(1)(ii) for soils lining a chemical waste landfill.

Synthetic Membrane Liners (40 CFR § 761.75[b][2])

Synthetic membrane liners are required if the Regional Administrator determines that such a liner is needed to provide at least a permeability equivalent to the soils requirement in 40 CFR § 761.75(b)(1). As indicated above, the low permeability of the Salado Formation exceeds this requirement; therefore, it is not anticipated that a synthetic membrane liner would be required.

Hydrologic Conditions (Waiver Request to 40 CFR § 761.75[b][3])

A waiver is hereby requested to the requirement for hydrologic conditions pursuant to 40 CFR § 761.75(c)(4). This waiver is necessary because WIPP does not meet the requirement for the bottom of the landfill to be at least fifty feet above the historical high groundwater table. The WIPP repository is situated in the thick, relatively impermeable Salado Formation salt beds 2,150 ft (655 m) below the ground surface and is well-isolated from the hydrologic environment by adjacent evaporite strata. However, the stated purpose of this requirement 40 CFR § 761.75(b)(3) is to ensure that no hydraulic connection exists between the site and standing or flowing surface water. Compliance with this stated purpose was documented in the WIPP Compliance Certification Application and supported by numerous studies of the geohydrologic conditions in the area around the WIPP site.³ These studies identified three principal water-bearing zones above the disposal area and one below. The zones above the Salado Formation are the contact between the Rustler and Salado Formations and the Culebra and Magenta Dolomite Members of the Rustler Formation (Attachment A, Figure 7). The zone below the Salado Formation consists of channel sandstones in the Bell Canyon Formation. These studies indicated that these water-bearing zones are effectively isolated from the disposal area by relatively impermeable evaporite strata. Therefore, a waiver to this requirement will not present an unreasonable risk to human health or the environment.

Flood Protection (40 CFR § 761.75[b][4])

Pursuant to 40 CFR § 761.75(b)(4), the landfill site must be protected from flood water. The WIPP repository (landfill site) is situated in the thick, relatively impermeable Salado Formation salt beds, and is well-isolated from flood waters. In addition, the WIPP site mean surface elevation is approximately 400 ft (122 m) above the 100-year floodplain.⁴

³CCA, Appendix GCR, Geological Characterization Report

⁴WIPP SAR, DOE/WIPP-95-2065 Rev. 3 and CCA, Chapter 3.1.3, Surface Structures

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The land areas around the surface buildings are designed to minimize erosion. Runoff water is diverted as necessary from the buildings, tracks, or roads and returned to the natural drainage path.

There are no major surface-water bodies within 5 mi (8 km) of the site, and the nearest river, the Pecos River, is approximately 15 mi (24.14 km) away. The general ground elevation in the vicinity of the surface facilities (approximately 3,400 ft [1,036 m] above mean sea level) is about 500 ft (152 m) above the riverbed, and 400 ft (122 m) above the 100-year floodplain. Protection from flooding or ponding caused by probable maximum precipitation (PMP) events is provided by the diversion of water away from the WIPP facility by a system of peripheral interceptor diversions. Additionally, grade elevations of roads and surface facilities are designed so that storm water will not collect on the site under the most severe conditions. Repository shafts are elevated at least 6 in. (15.2 cm) to prevent surface water from entering the shafts. The floor levels of all surface facilities are above the levels for local flooding due to PMP events.

Facilities at the WIPP site have been constructed to contain or control storm water discharges; these include retention basins and storm water diversion berms. The site's water tanks (two 180,000 gal [681,354 L]) are located at the southwest corner of the property protection area, the topography of the site includes a sloping terrain to this corner of the site. There is a catch basin to the west of the water tanks, which is designed with adequate capacity (approximately 4.5 acres; approximately 0.25 acre/ft depth for failure of both tanks) to hold runoff from a failure of the water tanks.

The owner/operators worked closely with the EPA Region VI Storm Water Section and the NMED Groundwater and Surface Water Bureaus to evaluate compliance alternatives. Meetings were conducted to evaluate retention basin designs to ensure that retention basins were sized, designed, and constructed to meet NMED design criteria. Runoff coefficients were calculated using both the EPA and NMED runoff calculation guidelines. Because the NMED guidelines are more stringent, they were chosen for calculating storm water runoff from the facility. The NMED requires that two consecutive 10-year/24-hour storm events be used to calculate site runoff coefficients. These calculations were then used to develop engineering designs for all retention basins. Engineering studies were conducted to evaluate storm water flow patterns and to demonstrate that the existing WIPP storm water swale system has adequate capacity to accommodate calculated peak flows. The owner/operators focused on locating retention basins in natural depressions to maximize storage capacity and minimize surface impacts.

Note: 10-year/24-hour storm event = 3.2 inches.
Two consecutive 10-year/24-hour storm event = 6.4 inches.
100-year/24-hour storm event = 5.0 inches.

Topography (40 CFR § 761.75[b][5])

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Typically, landfills are located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping. The WIPP surface facilities are located in an area of low to moderate relief. However, the WIPP repository is located 2,150 ft below the surface. This location prevents erosion or landslides; however, the repository is closely monitored and maintained to prevent any potential roof fall or ground spalling events.

Monitoring Systems (Waiver Request to 40 CFR § 761.75[b][6])

A waiver is hereby requested to the requirement for sampling both groundwater and surface water pursuant to 40 CFR § 761.75(c)(4). This waiver is being requested due to the lack of surface waters at or near the WIPP facility and the lack of hydraulic connection between the waste repository and the groundwater.⁵ However, the owner/operators currently monitor surface (Pecos River and Brantley Lake) and groundwater for radioactive and hazardous constituent releases in accordance with Module V of the HWFP.⁶ The monitoring parameters include target analytes chosen based upon their relative concentration in the repository and their ability to migrate. Detection of these analytes could indicate a potential release of waste and would be subject to reporting and investigation requirements identified in Module V of the HWFP. Baseline surface and groundwater sampling around the WIPP facility indicated that there were no measurable PCBs in either.⁷ Therefore, a waiver to this requirement will not present an unreasonable risk to human health or the environment.

Leachate Collection (Waiver Request to 40 CFR § 761.75[b][7])

A waiver is hereby requested to the requirement for leachate collection and monitoring pursuant to 40 CFR § 761.75(c)(4). This waiver is being requested due to the geologic structure of the repository and the low presence of liquids necessary to form leachates. The repository is located in a salt layer with very low permeability and transmissivities as demonstrated by the EPA certification of the WIPP's compliance with the long-term disposal standards for radioactive TRU waste. Compliance with these requirements as codified in 40 CFR Part 191, Subparts B and C, demonstrated that waste will not migrate from the repository for 10,000 years.⁸ Based on the lack of liquids, no leachate is anticipated to be formed. Therefore, a leachate collection and monitoring system would not be effective, and a waiver to this requirement will not present an unreasonable risk to human health or the environment.

⁵Compliance Certification Application

⁶WIPP Hazardous Waste Facility Permit, October 27, 1999, Permit No. NM4890139088-TSDF

⁷Waste Isolation Pilot Plant RCRA Background Groundwater Quality Baseline Report, DOE/WIPP 98-2285, April 1998

⁸Compliance Certification Application

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Disposal Facility (Chemical Waste Landfill) Operations Plan (40 CFR § 761.75[b][8])

The management and disposal of PCBs at WIPP will be consistent with the operations set forth in Modules II, III, and IV of the WIPP HWFP. WIPP will be operated in accordance with the HWFP, including record keeping (Modules I and II), Hazardous Waste Disposal Units (HWDU) mining and closure (Attachments I and M2), waste segregation burial coordinates (Attachment B), vehicle and equipment movement and use of roadways (Attachment G), environmental emergency contingency plans (Attachment F), security (Attachment C), and unauthorized waste placements (Attachment B).

The chemical compatibility of PCBs with the types and quantities of wastes to be received at WIPP has been reviewed for potential incompatibilities using EPA guidelines.⁹ PCBs have been determined not to be incompatible with other wastes managed and disposed at WIPP; therefore, no waste segregation will be necessary. Changes to the types of wastes being received will be reviewed for compatibility prior to acceptance at WIPP.

A description of the process for waste processing is included below. Descriptions of the RH PCB/TRU waste handling and the central confirmation facility processes are also described. These two processes are subject to "conditional approval" as described in Sections 1.0 and 3.3 of this initial report.

Transportation

The owner/operators have contracts in place to provide safe transportation of wastes from the DOE generator/storage sites (e.g., Idaho National Engineering and Environmental Laboratory, Rocky Flats Environmental Technology Site, Los Alamos National Laboratory) to the WIPP facility. Under these contracts, the transportation companies provide dedicated vehicles and personnel for the shipment of wastes. This provides for well-trained and knowledgeable drivers who are capable of safely transporting waste to the WIPP facility. After arrival at WIPP, external radiological surveys, security checks, and shipping documentation reviews are performed and the shipping containers are parked in the Parking Area Unit located south of the Waste Handling Building (WHB) (described below).

Wastes transported to the WIPP site by truck are shipped in Type B shipping containers licensed by the Nuclear Regulatory Commission (NRC) with various configurations of containers meeting Department of Transportation (DOT) Type A drums and containers. Under this authorization, the owner/operators request to use any approved Type B shipping containers. Under 10 CFR § 71.73(c), Type B containers are subjected to

⁹"A Method for Determining the Compatibility of Hazardous Wastes"; EPA-600/2-80-076; April 1980; R. A. Carnes, H. K. Hatayama, J. J. Chen, E. R. de Vera, R. D. Stephens, and D. L. Storm; California Department of Health Services, Berkeley, California.

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rigorous testing (e.g., drop, puncture, and burn tests) to ensure that they can withstand hypothetical accident conditions as required. The following is the list of licensed Type B containers currently used for the transportation of TRU wastes to WIPP:

- C TRUPACT-II (CH [contact-handled] waste shipments only)
- C HalfPACT (CH waste shipments only)
- C RH-TRU 72B (RH waste shipments only)
- C CNS 10-160B (RH waste shipments only)

Information concerning these containers (e.g., design, capacity, certification, etc.) is available at <http://www.wipp.ws/library/caolib.htm#RCRA>.

Surface Facility Descriptions:

The following are descriptions of the facilities that will be used to safely manage and store PCB/TRU wastes for disposal in the underground repository.

Parking Area Unit (south of the WHB) is used for storage of waste containers within sealed shipping containers (Attachment A, Figure 4). The Parking Area Unit will provide storage space for 1,591 ft³ (45 m³) of CH PCB/TRU waste. Secondary containment and protection of the waste containers are provided by the sealed shipping containers. Waste placed in the Parking Area Unit remains sealed in shipping containers at all times while in this area.

The WHB is designed to meet DOE design and associated quality assurance requirements. The WHB is the surface facility where PCB/TRU waste handling activities will take place. The concrete floors are sealed with a coating that is sufficiently impervious to the chemicals in PCB/TRU waste. This area is permitted under the HWFP as the WHB Unit with several areas within the WHB (e.g., northeast storage area, shielded storage area) designated to store TRU and TRU mixed waste (Attachment A, Figure 5). Approval of the central confirmation facility and/or the RH PCB/TRU waste requests will add additional storage areas (e.g., northwest storage area, waste container storage area, Hot Cell storage area, cask unloading room) within the WHB Unit. Pursuant to 40 CFR § 761.65(b)(2)(iii), these areas will be used to store PCB/TRU waste designated for disposal at WIPP. The CH Bay, RH Bay, and central confirmation facility are located within the WHB.

The CH Bay (Attachment A, Figure 5) is the area within the WHB designed for the management and storage of CH TRU and CH PCB/TRU wastes. This bay currently includes several storage areas clearly marked to indicate the lateral limits of the storage areas. These areas include the northeast storage area with a maximum capacity of 1,856 ft³ (52.6 m³); the shielded storage area with a maximum capacity of 256 ft³ (7.5 m³); and the derived waste storage area with a maximum capacity of 66.3 ft³ (1.88 m³). Approval of the central confirmation facility request will increase the area of the CH Bay. In addition, three storage areas will be added: the northwest storage area, the waste container storage area, and the Room 112 storage area.

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The RH Bay (Attachment A, Figure 4) is the area within the WHB designed for the management and storage of RH TRU and RH PCB/TRU wastes. This bay includes several storage areas: the RH bay, the Cask Unloading Room, the Hot Cell, the Transfer Cell, and the Facility Cask Loading Room.

General Operations

Unless otherwise indicated, the following conditions will apply to CH PCB/TRU waste, central confirmation facility, and RH PCB/TRU waste operations:

Container management: Containers will be managed in a manner that minimizes the probability of spills or leaks. Containers are required to be closed at all times, except as necessary to add or remove waste, remove a prohibited item, or perform a Waste Analysis Plan required visual examination. If a primary waste container is not in good condition, the container will be overpacked. The overpack container will be labeled with the same information as the primary container.

Discrepant payloads: If discrepant payloads are noted, they will be placed either in a storage area of the WHB on a facility pallet or inside a shipping container, depending on when the discrepancy is discovered.

Aisle space: Adequate aisle space is maintained in all WHB Unit PCB/TRU waste storage areas to allow unobstructed movement of fire-fighting personnel, spill-control equipment, and decontamination equipment that would be used in the event of an off-normal event.

Off-normal events: Off-normal events could interrupt normal operations in the waste management process line. These off normal events fall into the following categories: waste management system equipment malfunctions; waste shipments with unacceptable levels of surface contamination; hazardous waste manifest discrepancies that are not immediately resolved; and/or a suspension of emplacement activities for regulatory reasons. Shipments of waste from the generator/storage sites may be stopped if an off-normal event warrants.

Derived waste: Wastes may be generated as a direct result of managing PCB/TRU wastes. These derived wastes will be assumed to have the same properties as the waste from which it was derived and will be managed in containers within the derived waste storage area. Derived waste containers are kept closed at all times unless waste is being added or removed. Derived wastes will be disposed in the same manner as other wastes received.

Training: Waste handling personnel are thoroughly trained in the safe use of waste handling and transport equipment. The training includes both classroom training and on-the-job training.

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CH Surface Operations

CH PCB/TRU wastes will be staged in the Type B shipping containers used to transport the wastes in the Parking Area Unit. The Type B shipping containers will then be received through one of three air-lock entries to the CH Bay of the WHB Unit. Inside the CH Bay, overhead cranes at one of the TRUPACT-II docks (TRUDOCKs) will be used to open and unload the Type B shipping containers. The TRUDOCKs are within the TRUDOCK storage area of the WHB Unit (Attachment A, Figure 5).

The cranes are rated to lift the shipping container lids and the shipping container contents. The cranes are designed to remain on their tracks and hold their load even in the event of a design-basis earthquake. Upon receipt and removal of CH PCB/TRU waste containers from the shipping containers, the waste containers will be visually inspected for physical damage (severe rusting, apparent structural defects, signs of pressurization, etc.) and leakage to ensure that they are in good condition prior to storage. Waste containers will also be checked for external surface radiological contamination. Waste containers may be stored in this area in the shipping container (with or without the shipping container lids removed). Waste containers inside the shipping container will not be inspected until they are removed.

Once unloaded from the shipping containers, waste containers will be placed in one of two positions on the facility pallet or on a containment pallet. The waste containers will be stacked, as they arrive, on facility pallets (one- or two-high, depending on weight considerations). Pallets of waste can be stored at the TRUDOCKs or relocated to the northeast storage/shielded storage areas of the WHB Unit for normal storage.

The following are the major pieces of equipment that will be used to manage CH PCB/TRU waste in the container storage units:

TRUDOCK: Each unloading dock inside the WHB is designed to accommodate up to two shipping containers. The TRUDOCK functions as a work platform, providing PCB/TRU waste handling personnel easy access to the container during unloading operations.

Forklifts: Used to transfer the shipping containers into the WHB Unit and to transfer palletized CH PCB/TRU waste containers to the conveyance loading car. Another forklift will be used for general-purpose transfer operations. This forklift has attachments and adapters to handle individual PCB/TRU waste containers, if required.

Overhead bridge crane: Used with a specially designed lift fixture for disassembly of the shipping containers. Separate lifting attachments have been specifically designed to accommodate Standard Waste Boxes (SWB) and Ten-Drum Overpacks (TDOP). The lift fixture, attached to the crane, has built-in level indicators and two counterweights that can be moved to adjust the center of gravity of unbalanced loads and to keep them level.

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Facility pallet: fabricated steel unit designed to support 7-packs of drums, SWBs, TDOPs, or groups of overpack drums, and has a rated load of 25,000 lb (11,430 kg). The facility pallet accommodates up to four 7-packs of drums or four SWBs (in two stacks of two units), two TDOPs, two groups of overpack drums (maximum of four drums per group), or any combination thereof.

Conveyance loading car: a vehicle that operates on rails. It is designed with a flat bed that has adjustable height capability and is used to transfer the facility pallets on or off the pallet support stands in the waste hoist conveyance.

Central Confirmation Facility Operations

Under the central confirmation facility modification, storage of waste requiring confirmation of generator/storage site waste characterization may be moved to and stored at the northwest storage area (Room 108), waste container storage area, and/or Room 112.

When the central confirmation facility permit modification is approved, CH PCB/TRU waste that has not undergone confirmation will be transferred from the facility pallet to a containment pallet for storage. Up to eight drums, or 6,000 lb (2,720 kg), may be placed on a containment pallet. These wastes will be transferred between storage areas until confirmation in accordance with the WIPP Waste Analysis Plan is complete and the waste containers are certified by the Site Project Manager. This process may take up to one year to complete due to HWFP requirements for sampling and analysis. The certified containers will then be transferred and stored on a facility pallet prior to transport to the underground.

RH Surface Operations

RH PCB/TRU wastes will be staged in the Type B shipping casks used to transport the wastes containers in the Parking Area Unit. The Type B shipping cask will then be received through a set of double doors on the east side of the WHB. The RH Bay houses the cask transfer car. The RH Bay is served by an overhead bridge crane used for shipping cask handling and maintenance operations. All storage in the RH Bay will occur in the RH shipping casks. The casks will be stored either on the trailer or the cask transfer car. The storage will occur after the trailer containing the cask is moved into the RH Bay and prior to the cask being moved into the Cask Unloading Room to stage the waste for disposal operations.

The Cask Unloading Room provides for transfer of the RH shipping cask to the Transfer Cell. Waste containers in RH shipping casks that need to be put in canisters at WIPP can be transferred to the Hot Cell from the Cask Unloading Room. Storage in the Cask Unloading Room will occur in the RH shipping casks. Storage in this area typically will occur at the end of a shift or in an off-normal event that results in the suspension of a waste handling evolution.

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The Hot Cell is a concrete-shielded room in which drums of RH PCB/TRU waste will be transferred remotely from the shipping cask, staged in the Hot Cell, and loaded into a canister. The loaded canister will then be lowered from the Hot Cell into the Transfer Cell shuttle car containing a shielded insert. Waste will be stored in the Hot Cell in either drums or canisters. Drums will be stored either on the drum carriage unit that is removed from the shipping cask or in a canister located in one of the specially designed canister sleeves designed for holding a single canister.

The Transfer Cell houses the Transfer Cell shuttle car, which will move the RH shipping cask or shielded insert into position for transferring the canister to the facility cask. Storage in this area typically will occur at the end of a shift or in an off-normal event that results in the suspension of a waste handling evolution.

The Facility Cask Loading Room provides for transfer of a canister to the facility cask for subsequent transfer to the waste hoist and to the underground HWDUs. The Facility Cask Loading Room also functions as an air lock between the waste shaft and the Transfer Cell. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of a waste handling evolution.

The following are major pieces of equipment that will be used to manage RH PCB/TRU mixed waste.

RH Bay overhead bridge crane: In the RH Bay, an overhead bridge crane will be used to lift the shipping cask from the trailer and place it on the cask transfer car. It also will be used to remove the impact limiters from the shipping casks and the outer lid of the RH shipping cask.

Cask lifting yoke: The lifting yoke is a lifting fixture that attaches to the overhead crane and is designed to lift and rotate the RH shipping cask onto the transfer car.

Cask transfer car: The cask transfer car, a self-propelled, rail-guided car, will transport the shipping cask between the RH Bay and the Cask Unloading Room.

Grapple hoist: A grapple hoist will be used to hoist the canister from the Transfer Cell shuttle car into the facility cask.

Facility cask: The facility cask body consists of two concentric steel cylinders. The annulus between the cylinders is filled with lead, and gate shield valves are located at either end. The canister will be placed inside the facility cask for shielding during canister transfer from the surface to the underground HWDU for emplacement.

Facility cask transfer car: The facility cask transfer car is a self-propelled rail car that will be used to move the facility cask between the Facility Cask Loading Room and the shaft station underground.

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Hot Cell bridge crane: The Hot Cell overhead bridge crane, outfitted with a rotating block and the facility grapple, will be used to lift the shipping cask lid and the drum carriage units from the shipping cask into the Hot Cell. The Hot Cell crane also will be used to lift the empty disposal canisters into place within the Hot Cell and to lower loaded canisters into the Transfer Cell.

Overhead powered manipulator: The overhead powered manipulator will be used in the Hot Cell to lift individual drums from the drum carriage unit and lower each drum into the disposal canister.

Manipulators: There are two sets of fixed manipulators in the Hot Cell. The manipulators will collect swipes of drums as they are being lifted from the drum carriage unit and transfer the swipes to the shielded material transfer drawer.

Shielded material transfer drawer: The shielded material transfer drawer will be used to transfer swipe samples obtained by the fixed manipulators to the Hot Cell Gallery for radiological counting.

Transfer Cell shuttle car: The Transfer Cell shuttle car will position the canister under the Facility Cask Loading Room port.

Cask Unloading Room crane: The Cask Unloading Room crane will lift and suspend the RH Cask or shielded insert from the transfer car and lower the cask or shielded insert into the Transfer Cell shuttle car.

Underground Operations

Operations consist of receiving CH PCB/TRU waste shipping containers, unloading and transporting the waste containers to the underground HWDUs, emplacing the waste in the underground HWDUs, and closing of the underground HWDUs in compliance with applicable state and federal regulations.

The WIPP geologic repository is mined within a 2,000-foot (ft) (610-meter [m])-thick bedded-salt formation called the Salado Formation. The underground HWDUs (miscellaneous units) are located 2,150 ft (655 m) beneath the ground surface. PCB/TRU waste management activities underground will be confined to the southern portion of the 120-acre (48.5 hectares) mined area during the Disposal Phase.

Four shafts connect the underground area with the surface. The waste shaft headframe and hoist are within the WHB and are used to transport containers of PCB/TRU waste, equipment, and materials to the repository horizon. The waste hoist is used to transport personnel and materials. The air intake shaft provides ventilation to all areas of the mine except for the waste shaft station. The salt handling shaft is used to hoist mined salt to the surface and serves as the principal personnel transport shaft. The exhaust shaft serves as a common exhaust air duct for all areas of the mine.

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The HWDUs identified as panels 1 through 3 provide volume for 1,908,000 ft³ (54,000 m³) of CH PCB/TRU waste. The HWDUs identified as panels 2 and 3 will provide room for 46,000 ft³ (1,302 m³) of RH PCB/TRU wastes. The RH PCB/TRU waste will be disposed by placement of canisters in predrilled holes in the ribs with shield plugs prior to the emplacement of CH PCB/TRU waste. The CH PCB/TRU waste containers (typically, 7-packs and SWBs) may be stacked up to three-high across the width of the room.

The following are the major pieces of equipment that will be used to manage CH PCB/TRU waste in the geologic repository.

Facility pallets: as discussed above.

Waste hoist conveyance: The hoist systems in the shafts and all shaft furnishings are designed to resist the dynamic forces of the hoisting system and to withstand a design-basis earthquake of 0.1 g. The waste hoist is equipped with a control system that will detect malfunctions or abnormal operations of the hoist system (such as over-travel, over-speed, power loss, circuitry failure, or starting in a wrong direction) and will trigger an alarm that automatically shuts down the hoist. The waste hoist is a multirope, friction-type hoist. A counterweight is used to balance the waste hoist conveyance. The waste hoist conveyance (outside dimensions) is 30 ft (9 m) high by 10 ft (3 m) wide by 15 ft (4.5 m) deep and can carry a payload of 45 tons (40,824 kg). During loading and unloading operations, it is stabilized by fixed guides. The hoist's maximum rope speed is 500 ft (152.4 m) per minute. The waste hoist system has two sets of brakes and is designed so that either set, acting alone, can stop a fully loaded conveyance under all emergency conditions.

Underground waste transporter: A commercially available diesel-powered tractor with an integral trailer designed specifically for transporting facility pallets from the waste hoist to the underground HWDU.

Underground forklifts: CH PCB/TRU waste containers loaded on slipsheets will be removed from the facility pallets using forklifts with a push-pull attachment attached to the forklift-truck front carriage. The use of the push-pull attachment prevents direct contact between waste containers and forklift tines. SWBs and TDOPs may also be removed from the facility pallet by using forklifts equipped with special adapters for these containers. These special adapters prevent direct contact between SWBs or TDOPs and forklift tines.

Subsurface structures: The subsurface support areas are constructed and maintained in conformance with federal mine safety codes.

Central Monitoring System: Monitors the status of underground equipment, including fixed fire-protection systems, the ventilation system, backup power systems, and radiological monitoring systems.

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Underground hazardous waste disposal units (HWDU): During the term of the current HWFP, the volume of PCB/TRU waste emplaced in the repository will not exceed 1,908,000 ft³ (54,000 m³). Waste will be disposed of in up to three underground HWDUs identified as Panels 1, 2, and 3. Each underground HWDU has seven rooms with nominal dimensions of 13 ft (4.0 m) high by 33 ft (10 m) wide by 300 ft (91 m) long separated by pillars 100 ft wide.

Electrical power: The WIPP facility uses electrical power (utility power) supplied by the regional electric utility company. If there is a loss of utility power, PCB/TRU waste handling and related operations will cease. Diesel generators provide backup power. Each diesel generator carries predetermined equipment loads while maintaining additional power reserves. Predetermined loads include lighting and ventilation for underground facilities, lighting and ventilation for the PCB/TRU waste handling areas, and the air intake shaft hoist. The diesel generators can be brought on line within 30 minutes either manually or from the Central Monitoring Room (CMR). Uninterruptible power supply units provide power to predetermined monitoring systems. These systems ensure that power to the radiation detection system for airborne contamination, the local processing units, the computer room, and the CMR is always available, even during the interval between the loss of off-site power and initiation of backup diesel generator power.

Geologic repository process description: The waste hoist lowers the loaded facility pallet to the underground. At the waste shaft station, the CH PCB/TRU underground transporter will back up to the waste hoist conveyance, and the facility pallet will be transferred from the waste hoist onto the transporter. The transporter then moves the facility pallet to the appropriate underground HWDU for emplacement. A forklift in the HWDU near the waste stack removes the waste containers from the facility pallets and places them in the waste stack using a push-pull attachment.

No aisle space is maintained for personnel access to emplaced waste containers. No roof maintenance behind stacks of waste is planned. It is estimated that a panel will be filled 2.5 years after emplacement is initiated.

The following are the major pieces of equipment that will be used to manage RH PCB/TRU waste in the geologic repository:

The facility cask transfer car: The facility cask transfer car is a self-propelled rail car that operates between the Facility Cask Loading Room and the geologic repository. After the facility cask is loaded, the facility cask transfer car will move onto the waste hoist conveyance and be transported underground. At the waste shaft station, the facility cask transfer car will proceed away from the waste hoist conveyance to provide forklift access to the facility cask.

41-ton forklift: A forklift will be used to remove the facility cask from the facility cask transfer car and to transport the facility cask to the underground HWDU. There, the facility

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cask will be placed on the horizontal emplacement and retrieval equipment (HERE), which has been aligned with the horizontal hole bored into the room wall.

Horizontal emplacement and retrieval equipment: The HERE will emplace canisters into a borehole in a room wall of an underground HWDU. Once the canisters have been emplaced, the HERE will then fill the borehole opening with a shield plug.

Emergency Response (40 CFR § 761.75[b][8][ii])

In the unlikely event of a release of waste, the owner/operators have a well-trained staff of emergency response personnel. Only fully trained emergency response personnel will provide response to hazardous waste incidents (e.g., spills, releases, fires) for the surface and underground facilities. Training requirements for the emergency response personnel can be found in Attachment H of the WIPP HWFP. The training provided to emergency responders will be updated to include information concerning the hazards of responding to incidents involving PCBs.

The response to spills, fires, or emergencies involving waste is described in the WIPP Contingency Plan included as Attachment F of the WIPP HWFP. This plan describes detailed response actions as well as memorandums of understanding and mutual aid agreements with local emergency response organizations and other mines in the area. This plan will be reviewed and updated, if necessary, to ensure that response actions address the hazards of incidents involving PCBs.

Liquid PCB Waste (40 CFR § 761.75[b][8][ii])

Liquid PCB wastes will be restricted from receipt/disposal at WIPP. Compliance with this restriction will be demonstrated by the generator/storage facility using visual examination or noninvasive techniques (e.g., radiography) established in the HWFP. Noninvasive techniques will be preferred due to worker and environmental hazards associated with PCB/TRU waste.

Ignitable Waste (40 CFR § 761.75[b][8][iii])

WIPP is restricted from receiving waste that is ignitable as defined in 40 CFR § 261.21. This requirement is set forth in the WIPP Waste Acceptance Criteria and Attachment B of the WIPP HWFP.

Records (40 CFR § 761.75[b][8][iv])

WIPP operating records are maintained as defined in Modules I and II of the WIPP HWFP. The records identifying the location of waste containers emplaced are maintained in the WIPP Waste Information System (WWIS) computer database. This database records the location of the emplaced container by panel, room, row, column, and position in the column. Accordingly, this database will provide the three dimensional burial coordinates

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for PCBs and PCB items as required by 40 CFR § 761.75(b)(8)(iv) and Module IV.H.2 of the HWFP. The database also provides for analytical data, analytical methods used, radioassay data, container shipment information, and other data pertinent to the characterization, transportation, and disposal of PCB/TRU waste.

In addition, the HWFP requires that manifests, inspection records, spill cleanup records, and monitoring records be kept as part of the facility operating records. For operational needs, these records will be kept at the offices of the organization that reviews and/or generates the record. In addition to the records already required at WIPP, 40 CFR § 761.180(b) requires that the following records be maintained at the facility:

- C Annual report (due to EPA Region VI by July 15 for the preceding calendar year)
- C Certificates of Disposal sent to the generator/storage sites
- C Written annual document log

The written annual document log will identify the WIPP site and include the manifest numbers, container numbers, description of the contents, dates removed from service, transportation date, date received at WIPP, the disposal date, and the date the Certificates of Disposal was sent to the generator/storage site.

Although these records are not maintained in a single file, they will be available to auditors or regulators upon request.

Supporting Facilities (40 CFR § 761.75[b][9])

WIPP has an additional complement of supporting facilities to effectively manage PCB/TRU waste as described in Attachments M, M1, and M2 of the WIPP HWFP. These support facilities include:

- C A six-foot chain-link security fence surrounding the Property Protection Area (Attachment A, Figure 2).
- C Paved roads to and on the WIPP facility were designed in accordance with American Association of State Highway and Transportation Officials Site Planning Guides to handle the maximum anticipated load and traffic needs.

Attachment C

***Local, State, and Federal Permits or Approvals
as of December 3, 2001***

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
New Mexico Environment Department, Hazardous Waste Bureau	Hazardous Waste Facility Permit	NM4890139088-TSDF	10/27/99	10/26/09
New Mexico Environment Department, UST Bureau	Underground Storage Tanks	NMED1198 (Number changes annually)	07/01/01	06/30/02
New Mexico Environment Department, Solid Waste Bureau	Solid Waste Hauler Registration	006655	12/01/99	None
New Mexico Environment Department, Solid Waste Bureau	Solid Waste Hauler Registration	040889	01/16/01	None
U.S. Environmental Protection Agency	National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit issued for use in the State of New Mexico	NMR05A823	01/31/01	09/29/05
New Mexico Commissioner of Public Lands	Right-of-Way for High-Volume Air Sampler	RW-22789	10/03/85	10/03/20
New Mexico Environment Department Groundwater Bureau	Discharge Permit	DP-831	07/03/97	07/03/02
New Mexico Environment Department Air Quality Bureau	Operating Permit for two backup diesel generators	310-M-2	12/07/93	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Water Pipeline	NM53809	08/17/83	In Perpetuity
Department of the Interior, Bureau of Land Management	Right-of-Way for the North Access Road	NM55676	08/24/83	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Railroad	NM55699	09/27/83	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Dosimetry and Aerosol Sampling Sites	NM63136	07/31/86	07/31/11
Department of the Interior, Bureau of Land Management	Right-of-Way for Seven Subsidence Monuments	NM65801	11/07/86	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Aerosol Sampling Site	NM77921	08/18/89	08/18/19
Department of the Interior, Bureau of Land Management	Right-of-Way for two Survey Monuments	NM82245	12/13/89	12/13/19
Department of the Interior, Bureau of Land Management	Right-of-Way for telephone cable	NM46029	07/03/90	09/04/11
Department of the Interior, Bureau of Land Management	Right-of-Way for SPS Powerline	NM43203	02/20/96	10/19/11
Department of the Interior, Bureau of Land Management	Right-of-Way for South Access Road	NM46130	09/26/94	08/17/31
Department of the Interior, Bureau of Land Management	Right-of-Way for Duval telephone line	NM60174	11/06/96	03/08/15
Department of the Interior, Bureau of Land Management	Right-of-Way for Wells AEC-7 and AEC-8	NM300603-SLU-12	07/23/75	None
Department of the Interior, Bureau of Land Management	Right-of-Way for ERDA-6	NM300605-SLU-29	05/12/75	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Wells C-2752 (ERDA-9) and C-2765 (H-1)	NM0606-SLU-34	03/31/76	None

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
Department of the Interior, Bureau of Land Management	Right-of-Way for ERDA 11	NM0607-LUP-63	08/19/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for ERDA-13	NM0606-SLU-38	07/15/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for ERDA-14	NM0607-TUP-62	06/29/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Wells C-2762 (H-2) and C-2764 (H-3)	NM0606-SLU-41	07/14/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Wells P-1, P-2, P-3, and P-4	NM060-SLU-48	05/16/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Wells P-5, P-6, and P-7	NM060-SLU-50	05/16/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Wells P-8, P-9, P-12, P-13, P-20, and Monitoring Wells C-2637 (P-14), C-2686 (P-15), C-2756 (P-18)	NM060-SLU-52	05/16/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Wells P-10, P-11, P-16, P-19, P-21, and Monitoring Well C-2774 (P-17)	NM0606-SLU-54	11/08/76	None
Department of the Interior, Bureau of Land Management	Right-of-Way for archaeological clearance for Wells P-5 – P-21	NM-6-5 Cooperative Agreement	05/19/81	None
Department of the Interior, Bureau of Land Management	Right-of-Way for access road for Monitoring Wells C-2639 (WIPP-12) and C-2748 (WIPP-13)	NM-6-5 Cooperative Agreement	04/19/78	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Meteorological Tower	NM060-SLU-43	02/04/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Aerosol Sampler	NM067-LUP-221	05/25/85	None
Department of the Interior, Bureau of Land Management	Right-of-Way for North Access Road Batch Plant	NM060-LUP-212	10/09/84	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Construction Landfill	NM067-LUP-219	12/08/95	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Well C-2664 (Cabin Baby)	NM0606-SLU-40	07/14/76	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Seismic Monitoring Station	NM85426	09/23/91	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Wells C-2684 (WIPP-18), C-2755 (WIPP-19), C-2754 (WIPP-21) and Well WIPP-22	NM-6-5 Cooperative Agreement	03/02/78	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Well WIPP-15	NM-6-5 Cooperative Agreement	01/19/78	None
Department of the Interior, Bureau of Land Management	Right-of-Way for C-2725 (H-4A), C-2775 (H-4B), and C-2776 (H-4C)	NM-6-5 Cooperative Agreement	04/27/78	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Wells C-2723 (WIPP-25), C-2724 (WIPP-26), C-2722 (WIPP-27), C-2636 (WIPP-28), C-2743 (WIPP-29), and C-2727 (WIPP-30)	NM-6-5 Cooperative Agreement	06/14/78	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Monitoring Well C-2748 (WIPP13)	NM-6-5 Cooperative Agreement	05/03/78	None

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
Department of the Interior, Bureau of Land Management	Right-of-Way for Well WIPP-11	NM-6-5 Cooperative Agreement	12/19/77	None
Department of the Interior, Bureau of Land Management	Right-of-Way for Dosimetry and Aerosol Sampling Sites	NM63136	07/31/86	07/31/11
Department of the Interior, Bureau of Land Management	Right-of-Way for Aerosol Sampling Sites	NM77921	10/03/89	08/18/19
Department of the Interior, Bureau of Land Management	Right-of-Way easement for accessing state trust lands in Eddy and Lea Counties	NM25430	02/29/00	09/28/04
Department of the Interior, Bureau of Land Management	Free-Use Caliche Extraction Permit (Renewed as necessary)	NM105004	10/12/00	Expired 10/12/01
U.S. Department of the Interior, Fish and Wildlife Service	Concurrence that WIPP construction activities will have no significant impact on federally-listed threatened or endangered species	None	05/29/80	None
U.S. Department of the Interior, Fish and Wildlife Service	Master Personal Banding	#22478	05/19/93	Auto. Renewed every 3 years
New Mexico Department of Game and Fish	Concurrence that WIPP construction activities will have no significant impact on state-listed threatened or endangered species	None 07/25/83	05/26/89	None
New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2801	02/23/01	None
New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2802	02/23/01	None
New Mexico State Engineer Office	Monitoring Well Exhaust Shaft Exploratory Borehole	C-2803	02/23/01	None
New Mexico State Engineer Office	Appropriation: WQSP-1 Well	C-2413	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-2 Well	C-2414	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-3 Well	C-2415	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-4 Well	C-2416	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-5 Well	C-2417	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-6 Well	C-2418	10/21/96	None
New Mexico State Engineer Office	Appropriation: WQSP-6a Well	C-2419	10/21/96	None
New Mexico State Engineer Office	Monitoring Well AEC-7	C-2742	11/06/00	None
New Mexico State Engineer Office	Monitoring Well AEC-8	C-2744	11/06/00	None
New Mexico State Engineer Office	Monitoring Well Cabin Baby	C-2664	07/30/99	None
New Mexico State Engineer Office	Monitoring Well D-268	C-2638	01/12/99	No longer DOE 2/16/00
New Mexico State Engineer Office	Monitoring Well DOE-1	C-2757	11/06/00	None

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
New Mexico State Engineer Office	Monitoring Well DOE-2	C-2682	04/17/00	None
New Mexico State Engineer Office	Monitoring Well ERDA-9	C-2752	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-1	C-2765	11/06/00	Plugged 2-26-01
New Mexico State Engineer Office	Monitoring Well H-2A	C-2762	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-2B1	C-2758	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-2B2	C-2763	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-2C	C-2759	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-3B1	C-2764	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-3B2	C-2760	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-3B3	C-2761	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-3D	pending	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-4A	C-2725	11/06/00	Plugged 8-8-00
New Mexico State Engineer Office	Monitoring Well H-4B	C-2775	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-4C	C-2776	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-5A	C-2746	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-5B	C-2745	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-5C	C-2747	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-6A	C-2751	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-6B	C-2749	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-6C	C-2750	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-7A	C-2694	04/17/00	Plugged 6-23-00
New Mexico State Engineer Office	Monitoring Well H-7B1	C-2770	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-7B2	C-2771	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-7C	C-2772	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-8A	C-2780	11/06/00	None

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
New Mexico State Engineer Office	Monitoring Well H-8B	C-2781	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-8C	C-2782	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-9A	C-2785	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-9B	C-2783	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-9C	C-2784	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-10A	C-2779	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-10B	C-2778	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-10C	C-2695	04/17/00	None
New Mexico State Engineer Office	Monitoring Well H-11B1	C-2767	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-11B2	C-2687	04/17/00	None
New Mexico State Engineer Office	Monitoring Well H-11B3	C-2768	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-11B4	C-2769	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-12	C-2777	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-14	C-2766	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-15	C-2685	04/17/00	None
New Mexico State Engineer Office	Monitoring Well H-16	C-2753	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-17	C-2773	11/06/00	None
New Mexico State Engineer Office	Monitoring Well H-18	C-2683	04/17/00	None
New Mexico State Engineer Office	Monitoring Well H-19B0 (Not Currently Used)	C-2420	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B1 (Not Currently Used)	C-2420	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B2 (Not Currently Used)	C-2421	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B3 (Not Currently Used)	C-2422	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B4 (Not Currently Used)	C-2423	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B5 (Not Currently Used)	C-2424	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well H-19B6 (Not Currently Used)	C-2425	01/25/95	Expired 01/31/98

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Granting Agency	Type of Permit	Permit Number	Granted/ Submitted	Expiration
New Mexico State Engineer Office	Monitoring Well H-19B7 (Not Currently Used)	C-2426	01/25/95	Expired 01/31/98
New Mexico State Engineer Office	Monitoring Well P-14	C-2637	01/02/99	Plugged 8-27-99
New Mexico State Engineer Office	Monitoring Well P-15	C-2686	04/17/00	None
New Mexico State Engineer Office	Monitoring Well P-17	C-2774	11/06/00	None
New Mexico State Engineer Office	Monitoring Well P-18	C-2756	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-12	C-2639	01/12/99	None
New Mexico State Engineer Office	Monitoring Well WIPP-13	C-2748	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-18	C-2684	04/17/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-19	C-2755	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-21	C-2754	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-25	C-2723	07/26/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-26	C-2724	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-27	C-2722	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP28	C-2636	01/12/99	Plugged 12-1-99
New Mexico State Engineer Office	Monitoring Well WIPP-29	C-2743	11/06/00	None
New Mexico State Engineer Office	Monitoring Well WIPP-30	C-2727	08/04/00	None

Attachment D

List of Acronyms and Abbreviations

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List of Acronyms and Abbreviations

CCA	Title 40 CFR Part 191, Compliance Certification Application
CFR	Code of Federal Regulations
CH	contact-handled
CMR	Central Monitoring Room
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
GET	General Employee Training
HERE	Horizontal emplacement and retrieval equipment
HWDU	Hazardous Waste Disposal Unit
HWFP	WIPP Hazardous Waste Facility Permit
LLC	limited liability company
LWA	Land Withdrawal Act
MOC	management and operating contractor
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NRC	Nuclear Regulatory Commission
PCB	polychlorinated biphenyl
PMP	probable maximum precipitation
ppm	parts per million
PPA	Property Protection Area
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
SWB	Standard Waste Boxes
TDOP	Ten-Drum Overpack
TMF	TRUPACT Maintenance Facility
TRU	transuranic (waste)
TRUDOCK	TRUPACT-II dock
TSCA	Toxic Substances Control Act
WHB	Waste Handling Building
WIPP	Waste Isolation Pilot Plant
WWIS	WIPP Waste Information System