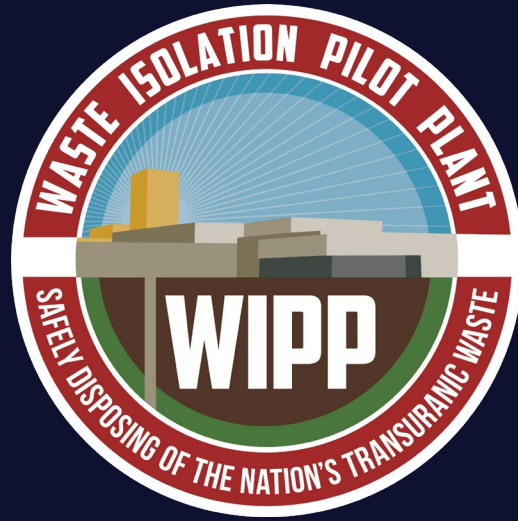


**U.S. DEPARTMENT *of* ENERGY**

---

**Office of Environmental Management**



# WIPP Community Forum

April 28, 2026

**Michael Gerle**

Department of Energy - Carlsbad Field Office Site  
Environmental Regulatory Compliance Director

**Sheila Davis**

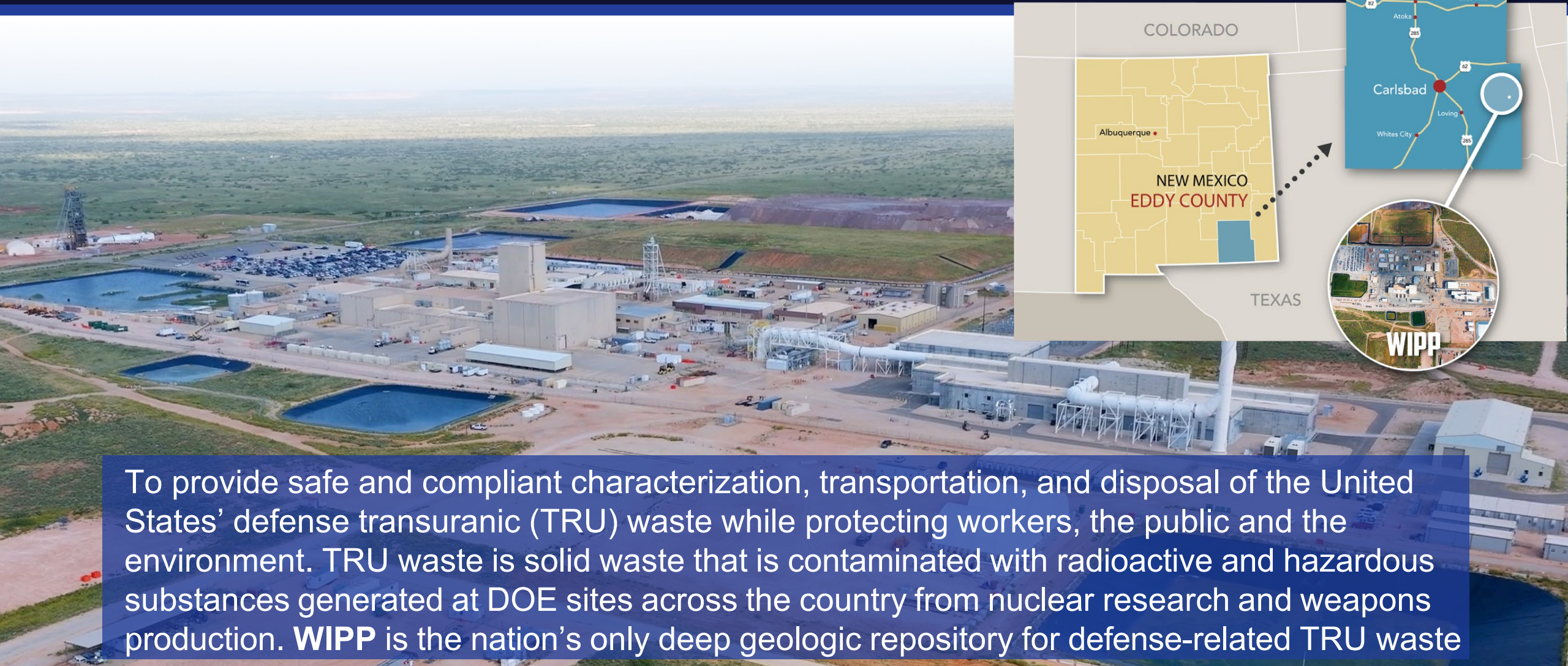
Salado Isolation Mining Contractors  
Environmental, Safety & Health Manager



U.S. DEPARTMENT  
of **ENERGY**

Office of Environmental  
Management

# Waste Isolation Pilot Plant Mission



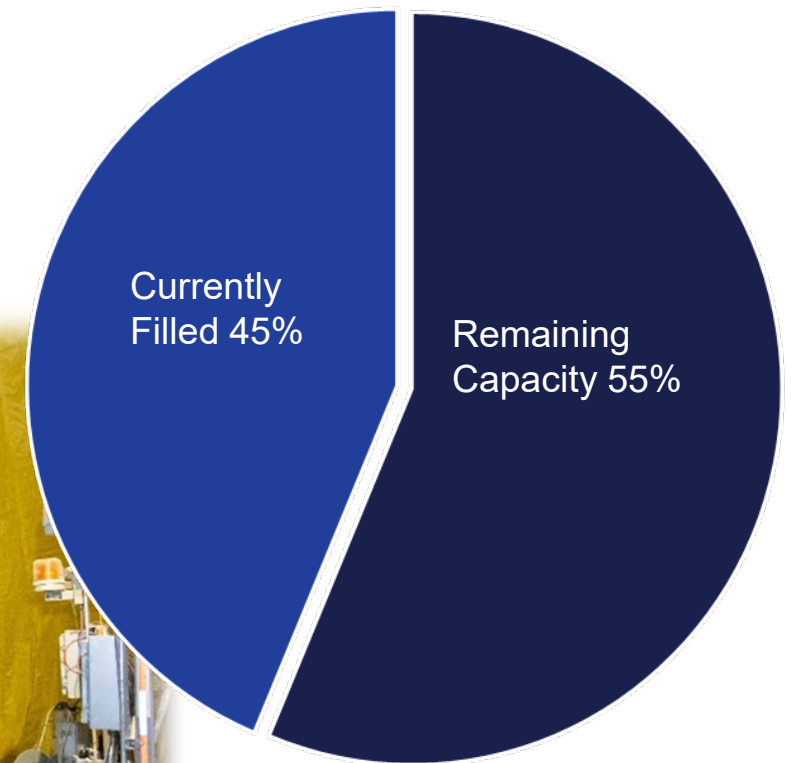
To provide safe and compliant characterization, transportation, and disposal of the United States' defense transuranic (TRU) waste while protecting workers, the public and the environment. TRU waste is solid waste that is contaminated with radioactive and hazardous substances generated at DOE sites across the country from nuclear research and weapons production. **WIPP** is the nation's only deep geologic repository for defense-related TRU waste



# TRU Waste Disposal

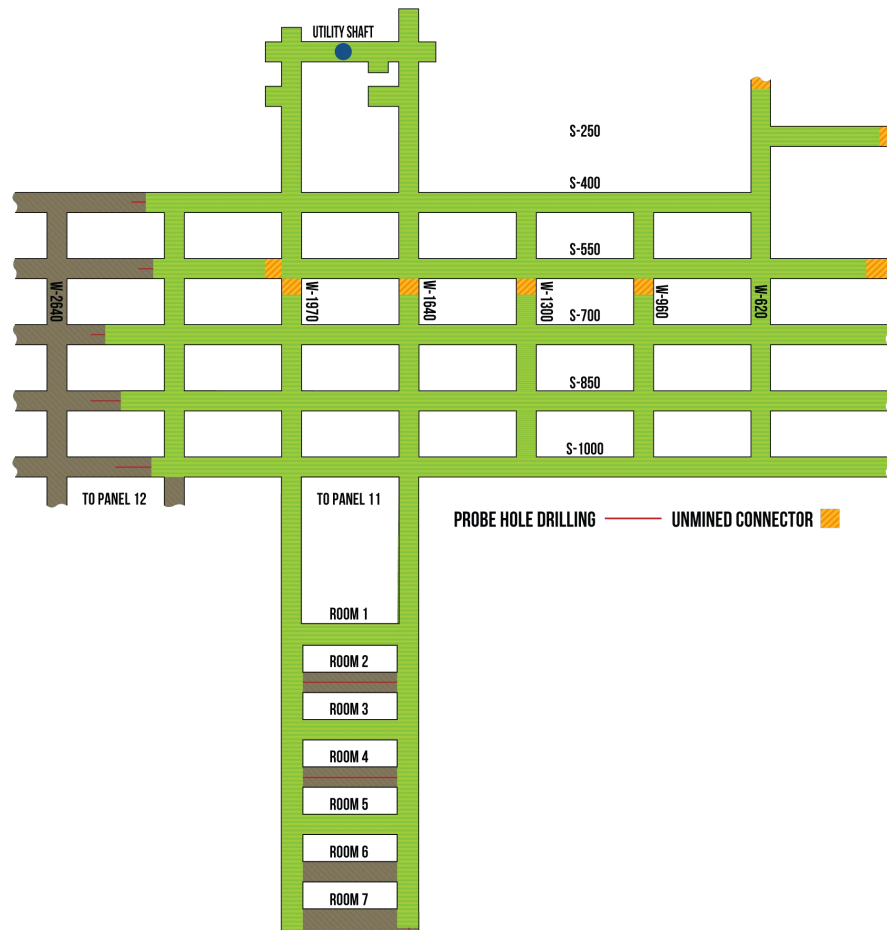
- Land Withdrawal Act (LWA)
- Defense generated transuranic waste
- Must meet WIPP Waste Acceptance Criteria
- Transuranic waste capacity = 6.2M ft<sup>3</sup>
  - Current volume capacity filled = 2.7M ft<sup>3</sup> (~45%)

WIPP transuranic waste capacity  
(cubic feet)

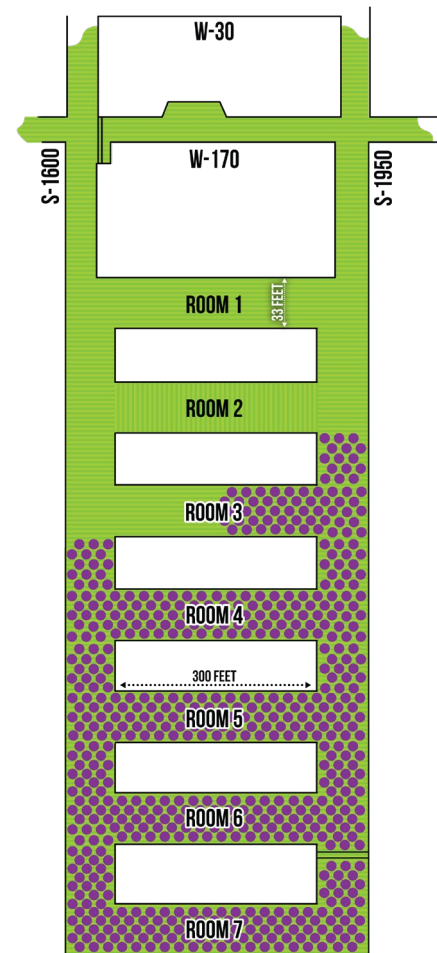


# Panels 8 & 11 Update

## MINING TO THE WEST



## PANEL EIGHT - EMPLACEMENT



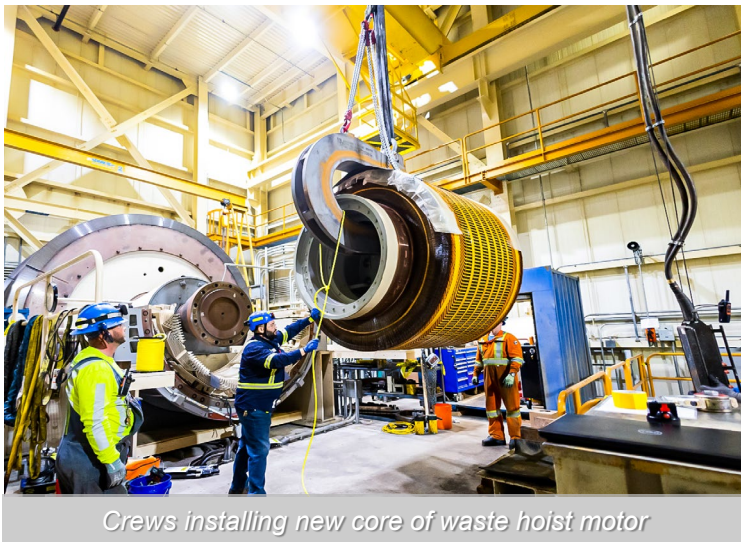
Waste emplacement in Panel 8 and mining of Panel 11 is crucial to WIPPs continued performance

- Waste emplacement in Panel 8 Room 3 is ongoing
- Room 3 is filled to **50% capacity**
- Panel 11 rooms and drifts are being mined

# Annual Maintenance Outage Update

## January 5 – March 13

- 148 critical work activities completed
  - 112 preventive maintenance items
  - 36 corrective actions



## Largest Project

- Replace Core of Waste Hoist Motor which controls
  - 6 Head Ropes
  - 3 Tail Ropes
  - 53-ton Counterweight

# Environmental, Safety & Health Performance

- Maintaining focus to achieve and sustain zero accidents and injuries
- Promoting worker engagement and ownership of safety and environmental performance
- Instilling a culture of 'Operational Excellence'



*Sustained lowest worker-injury rate in more than a decade*

# Environmental, Safety & Health Performance

## Sustainability and Waste Minimization

- Diverted 275 metric tons of recyclable materials from New Mexico landfills
- Completed replacement of mercury lamps with LED lighting in the WIPP underground
- Reduction of over 500 metric tons of annual CO2 emissions through utilization of company-provided commuter bussing to site

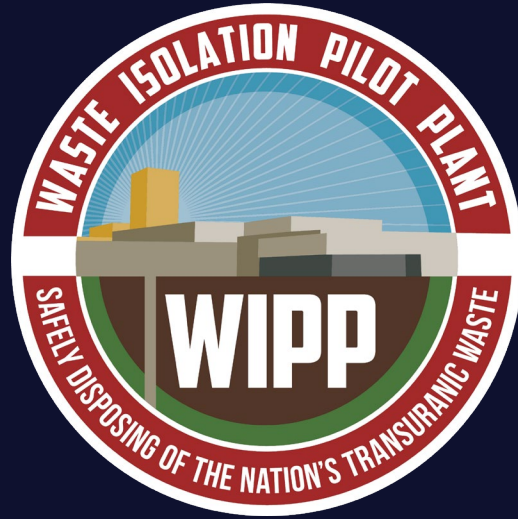
## Environmental Program Management

- Fully compliant results during recent Triennial Review and EPA inspection
- Dedicated teams committed to permitting, TRU waste confirmation, EPA compliance & coordination, waste management, air quality, groundwater monitoring & hydrology



*Black-necked stilt flying over pond located at the WIPP site*





# Protecting Our Environment and Community

April 28, 2026

**Zachary Lepchitz**

Department of Energy - Carlsbad Field Office Site  
Regulatory Specialist-Hydrologist



U.S. DEPARTMENT  
of **ENERGY**

Office of Environmental  
Management

# Ensuring Public Safety is the Top Priority

10

millirem  
per year

**Public Dose  
Limit (40 CFR)**

*WIPP results are a tiny fraction of this*

## **No Detectable Releases**

WIPP is designed so that during normal operations, there are no detectable radiological releases to the environment

## **EPA-Approved Modeling**

We use the CAP88-PC computer model, approved by the EPA, to calculate potential dose to the most exposed person

## **Consistently Below Limits**

Dose estimates have consistently proven to be far below federal limits — our monitoring data serves as real-world verification

## **Compliance Reporting**

Results reported annually in the WIPP Annual Site Environmental Report and the Biennial Environmental Compliance Report



# A Comprehensive and Layered Approach

## ⊕ Radiological Monitoring

- Airborne effluent particulate (exhaust stacks)
- Airborne ambient particulate (network of 7+ samplers)
- Surface water & sediment sampling
- Soil & vegetation sampling
- Biotic sampling (wildlife & cattle)
- Groundwater Detection Monitoring Program

## 🌿 Non-Radiological Monitoring

- Meteorological monitoring (52m tower)
- Volatile Organic Compound (VOC) monitoring
- Groundwater quality surveillance
- Perched Anthropogenic Water (PAW) monitoring
- Emerging contaminants (PFAS baseline sampling)
- Land management & oil/gas surveillance

# Monitoring Land and Water Pathways

## Surface Water & Sediment

- Annually sampled from up to eight off-site livestock tanks & catchment basins
- Three additional on-site locations (freshwater tank, H19, sewage lagoon)
- Co-collected sediment samples from eight off-site locations
- Grab sample technique; analyzed for target radionuclides

## Soil & Vegetation

- Collected annually from 6 locations co-located with air samplers
- Soils sampled at three depth profiles: 0–2 cm, 2–5 cm, 5–10 cm
- Provides long-term accumulation trend data
- One location randomly selected each year for duplicate collection

## Groundwater

- Detection Monitoring Program samples 6 Culebra Dolomite wells annually
- WQSP-1 through WQSP-6 completed to EPA standards
- Monthly water level measurements from Culebra wells (WLMP)
- Field parameters + lab analysis for radionuclides & hazardous constituents

# Proactively Protecting Water Resources

## Monitored Water-Bearing Zones

### Culebra Dolomite

Primary Detection Monitoring Program wells (WQSP-1 to WQSP-6)

### Perched Anthropogenic Water (PAW)

Shallow water <100 ft below surface; 19 monitoring wells sampled semi-annually

### Middle Dewey Lake Formation

Natural groundwater zone monitored at WQSP-6a and PZ-17b

### Evaporation Pond H-19

Permitted evaporative disposal; sampled semi-annually per DP-831

### Facultative Lagoon System

Biologically treats industrial/domestic wastewater; 7 lined impoundments

## NEW: PFAS Emerging Contaminants

### What are PFAS?

Per- and polyfluoroalkyl substances — man-made chemicals detected in surface and groundwaters nationwide, designated as emerging contaminants of concern due to persistence and toxicity.

### WIPP's Proactive Response:

- Developed PFAS sampling plan in 2024
- Sampled 9 groundwater monitoring wells across 3 water-bearing zones
- Sampled 2 lagoons of Facultative Lagoon System
- Results published in dedicated December 2024 PFAS Sampling Report
- Future sampling planned as needed



# Recent Media Statements

“During such operations, volatile organic compounds are emitted into the facility’s air by underground equipment, while potentially **hazardous materials are discharged into surrounding groundwater supplies.**”

- Analyses of Volatile Organic Compounds (VOCs) from both the previous exhaust filtration system's monitoring stations and the new Station G have consistently shown concentrations below the action limits stipulated by New Mexico Administrative Code (NMAC) regulations. These findings are corroborated by independent analyses from our partners, the New Mexico Environment Department's DOE Oversight Bureau (NMEDOB) and the Carlsbad Environmental Monitoring & Research Center (CEMRC).
- The mechanical improbability of groundwater contamination is underscored by the sequence of unlikely events a single VOC molecule would have to successfully navigate. It must survive extreme atmospheric dilution; resist re-evaporation after ground deposition; be carried into the soil by infrequent rainfall; traverse through the vadose zone without being adsorbed or degraded; and ultimately terminate its journey in a small, isolated, non-potable pocket of water.

In summary, both the VOC and groundwater monitoring programs at WIPP are robust and highly regulated. According to the most recent official reports, VOC concentrations remain well below established action limits, and groundwater monitoring shows no indication of a release from the repository, with water quality remaining consistent with the natural background levels established over 30 years ago.



# Our Commitment to You



## Comprehensive Monitoring

Multi-layered program covering air, water, soil, and biota across a 50-mile radius — leaving no pathway unmonitored.



## Safety-Driven

Protecting the health and safety of the public and the environment is our highest priority at every level of operations.



## Transparency & Compliance

All results published annually in the ASER. Committed to meeting or exceeding all federal, state, and local regulations.



## Proactive Approach

We adapt our program to address new science — including emerging contaminants like PFAS — before regulations require it.



## Quality Assured



Rigorous QA/QC processes from sample collection to final reporting ensure our data is reliable, accurate, and trustworthy.

*WIPP is a trusted steward of the land and a responsible member of the community*



# Questions?

## WIPP Information Center

-  4021 National Parks Highway, Carlsbad, NM 88220
-  1-800-336-WIPP (9477) • Mon–Thu, 7am–4pm MT
-  <https://wipp.energy.gov/>

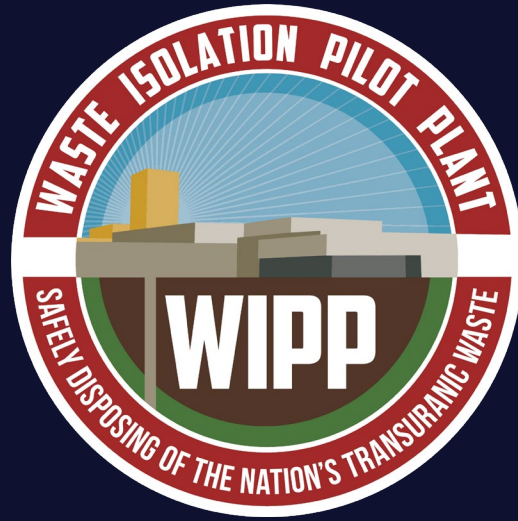




**U.S. DEPARTMENT *of* ENERGY**

---

**Office of Environmental Management**



# Environmental Monitoring Programs

April 28, 2026

**Rick Salness**

Salado Isolation Mining Contractors  
Site Environmental Program Manager



U.S. DEPARTMENT  
of **ENERGY**

Office of Environmental  
Management

# Overview

The WIPP has a very robust/mature environmental monitoring program

- Groundwater (DMWs, DP-831 wells, DP-831 ponds)
- Surface water (11 locations for radionuclides)
- Sediment (8 locations for radionuclides)
- Biotic (sample of opportunity)
- Vegetation (7 locations)
- Soil (7 locations)
- Air (radionuclides and volatile organic compounds)



# Regulatory Drivers

- 40 CFR § 191 *Disposal Regulations*
  - Subpart A—Standards for Management and Storage (Air)
  - Subpart B—Standards for Disposal (Environment)
  - Subpart C—Standards for Ground-Water Protection (Ground Water)
- 40 CFR § 194.42(4) *Monitoring*
  - Changes in Culebra Flow Direction (Hydrological COMPs)
  - Changes in Culebra Water Composition
- DOE/EPA MOU for NESHAPs (1995)
  - 40 CFR 61 Subpart H
- WIPP Hazardous Waste Facility Permit (HWFP)
  - Part 5 and Attachment L
    - Groundwater flow rate and direction and water quality
  - Part 4 and Attachment N
    - Repository VOC Monitoring Program (RVMP) and Disposal Room VOC Monitoring Program (DRVMP)
- 20.6.2 NMAC Environmental Protection, Water Quality, Ground Water Protection
  - Discharge Permit 831
- DOE Order 458.1, Radiation Protection of the Public and the Environment



# Summary

- Heavily regulated facility from an environmental monitoring perspective
- The DOE continues to meet environmental protection standards set by 40 CFR § 191, the specific criteria of 40 CFR § 194, and permit requirements
- All sampling results are compliant with permits and are within background levels and below action levels
- All data can be found in the Annual Site Environmental Reports (ASER) at:  
<https://wipp.energy.gov/technical-documents.asp>





**U.S. DEPARTMENT *of* ENERGY**

---

**Office of Environmental Management**



# New Mexico Environment Department

Department of Energy Oversight Bureau  
– WIPP Oversight Section  
Tasha Burns, Manager  
April 28, 2026





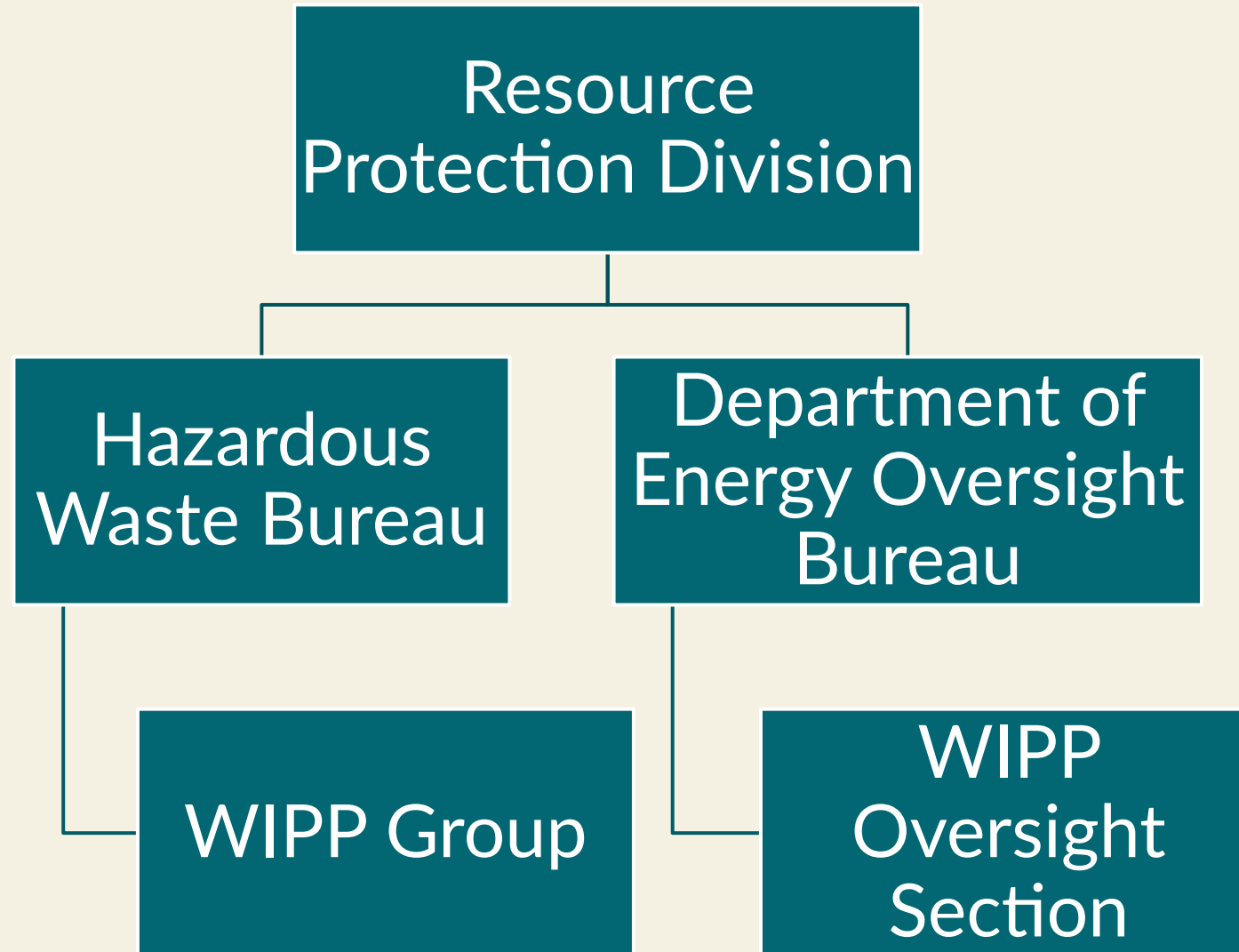
#

# DOEOB Mission Statement

Our mission is to conduct independent environmental monitoring of DOE operations in New Mexico and provide transparent, unbiased, and publicly available information to the citizens of New Mexico.



# DOEOB Within NMED





# NMED DOEOB

Waste  
Isolation  
Pilot  
Plant  
Oversight  
Section

Sandia  
National  
Lab  
Oversight  
Section

Los  
Alamos  
National  
Lab  
Oversight  
Section



# WIPP Oversight Section (WOS) Team

## Carlsbad

- **Lauren Garcia**
  - ▣ Environmental Scientist
- **Lauren Lara**
  - ▣ Environmental Scientist

## Albuquerque

- **Jodey Kougioulis**
  - ▣ Quality Assurance Officer
- **Tasha Burns**
  - ▣ Manager
- **Beau Masse**
  - ▣ Bureau Chief



# WOS Environmental Sampling

Sampling  
Programs –  
WIPP  
Oversight  
Section

- ❑ Exhaust Air
- ❑ Ambient Air
- ❑ Groundwater
- ❑ Surface Water
- ❑ Sediment
- ❑ Soil
- ❑ Vegetation
- ❑ Direct Penetrating Radiation



# WOS Environmental Sampling

## Exhaust Air

- Daily collection of particulates in the air exhausted from the underground at WIPP
- Split samples with WIPP at Station G

## Ambient Air

- Biweekly collection of particulates in the air outside on and off WIPP property.
- 6 locations, some co-located with WIPP



# WOS Environmental Sampling





# WOS Environmental Sampling

Groundwater – 6 wells

Surface Water – 12 locations

Sediment – 12 locations

Soil – 6 locations, 3 depths each

Vegetation – 6 locations



# WOS Environmental Sampling

Exhaust Air,  
Ambient Air,  
and General  
Environmental  
samples  
analyses

- ❑ Gross Alpha/Gross Beta
- ❑ Americium-241
- ❑ Plutonium (Pu-239/240, Pu-238)
- ❑ Uranium (U-238, U-235, U-234)
- ❑ Strontium-90
- ❑ Gamma Emitting Isotopes
- ❑ Groundwater – Resource Conservation and Recovery Act (RCRA Metals)



# WOS Environmental Sampling

Direct  
Penetrating  
Radiation  
(DPR)

Quarterly  
Collection

- Measures ambient gamma radiation in the environment.
- 24 locations around WIPP, along the transportation routes in Eddy and Lea Counties, and background site in Carlsbad.
- Cosmic and naturally occurring radiation cannot be excluded.



# WOS Environmental Sampling





# Quality Control/Quality Assurance

QA/QC

- ❑ Duplicate samples, equipment blanks, or trip blanks.
- ❑ Standard Operating Procedures
- ❑ Sampling Analysis Plans
- ❑ Accredited Analytical Laboratories
- ❑ Validation and Verification of Lab reports.



# NMED DOEOB WOS Website

## **Waste Isolation Pilot Plant Oversight**

[Department of Energy Oversight Bureau Home](#)

[Sandia National Labs Oversight Home](#)

[Los Alamos National Labs Home](#)

[Waste Isolation Pilot Plant Oversight](#)

[WIPP Oversight Section Publications](#)

New Mexico Environment Department (NMED)'s Department of Energy Oversight Bureau (DOEOB) operations at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM are intended to support non-regulatory activities of the State of New Mexico in working with the United States Department of Energy (DOE) to evaluate the adequacy of DOE activities related to environmental monitoring; establish a comprehensive, coordinated environmental oversight and monitoring program; facilitate a better understanding by local and Tribal governments and the general public on the environmental impacts, if any, associated with WIPP operations; and to support periodic state monitoring of discharges or emissions as necessary to verify the effectiveness of the DOE programs at WIPP.

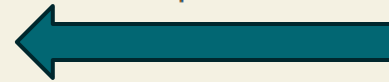
The DOEOB WIPP Oversight Section (WOS) provides technical support to the U.S. DOE, DOE contractors, the NMED, state and federal entities, tribes, and public interest and oversight groups. Technical support includes technical review and comment of analytical data, work plans and sampling and analysis plans (SAPs), and Environmental Impact Statements, and other technical documents and reports.

Go to the [WIPP Oversight Section Publications](#) page to view reports.



[> Ambient Air Monitoring](#)

[> Exhaust Air Monitoring](#)





# NMED DOEOB Website

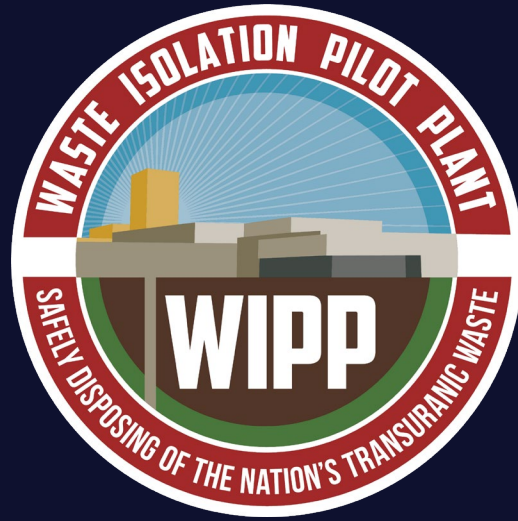
## **NMED Department of Energy Oversight Bureau - Environmental Monitoring App Map**

[Visit our map](#) to view sampling locations.



# DOEOB WIPP Contacts

- **Lauren Garcia**
  - ▣ Lauren.Garcia@env.nm.gov - 575-200-0618
- **Lauren Lara**
  - ▣ Lauren.Lara@env.nm.gov - 505-660-4247
- **Tasha Burns**
  - ▣ Tasha.Burns@env.nm.gov - 505-372-9352
  
- **More information and contacts for the other sections:**  
[www.env.nm.gov/doeob](http://www.env.nm.gov/doeob)



# Public Comment



U.S. DEPARTMENT  
of **ENERGY**

Office of Environmental  
Management

# Additional Information

## **Waste Isolation Pilot Plant**

Check the WIPP website for more details: [wipp.energy.gov](http://wipp.energy.gov)

For inquiries:

[infocntr@wipp.doe.gov](mailto:infocntr@wipp.doe.gov)

---

## **Los Alamos National Laboratory**

Check the N3B/LANL website for more details: [n3b-la.com/outreach/](http://n3b-la.com/outreach/)

For inquiries:

[LegacyCleanupFeedback@em-la.doe.gov](mailto:LegacyCleanupFeedback@em-la.doe.gov)





**U.S. DEPARTMENT *of* ENERGY**

---

**Office of Environmental Management**