



Northern New Mexico Citizens' Advisory Board Meeting

March 19, 2026

1:00 p.m. to 4:00 p.m.

Virtual Meeting

Minutes

The video for the March Board Meeting can be viewed on the NNMCAB YouTube Channel:

[NNMCAB Board Meeting March 2026](#)

Meeting Attendees

Department of Energy

1. Jessica Kunkle, Manager, Environmental Management Los Alamos
2. Stanley Pyram, Acting Manager, Environmental Management Los Alamos
3. Kara Hetrick, Environmental Management Los Alamos
4. Robert Reine, Environmental Management Los Alamos
5. John Evans, Environmental Management Los Alamos
6. Angela Tarter, Environmental Management Los Alamos
7. Rudy Cid, Environmental Management Los Alamos

NNMCAB Members

1. Beverly Martin, Chair
2. Danielle Duran
3. Sterling Grogan
4. Abbey Hayward
5. Stephen McLaughlin
6. Patricio Pacheco
7. Arlina Sanford

NNMCAB Staff/Support

1. Bridget Maestas, Executive Director
2. Yolanda Valdez, Executive Assistant

Guests

1. Siona Briley, New Mexico Environment Department
2. Amanda Caudillo, Environmental Management Los Alamos
3. Jay Coghlan, Nuclear Watch New Mexico
4. Jacqueline Dees, N3B
5. Stephanie Gallagher, Environmental Management Los Alamos
6. Kate Girard, Office of Natural Resources Trustee – New Mexico
7. Jennifer Hart, Los Alamos National Laboratory
8. Kristin Henderson, N3B
9. Linsey Hurst, New Mexico Environment Department
10. Scott Kovac, Nuclear Watch New Mexico

11. Heath Lovell, Public
12. Caitlin Martinez, New Mexico Environment Department
13. Renee Martinez, Environmental Management Los Alamos
14. Beau Masse, New Mexico Environment Department
15. Thomas McCrory, Environmental Management Los Alamos
16. Scott Muggleton, N3B
17. JohnDavid Nance, New Mexico Environment Department
18. Rebecca Ortiz, Environmental Management Los Alamos
19. Donovan Porertfield, Public
20. Joseph Ritchey, Environmental Management Los Alamos
21. John Rhoderick, New Mexico Environment Department
22. Jason Roberts, N3B
23. Kelsey Shank, theEDGE
24. Brad Smith, N3B
25. Jonathan Tarr, American Institute of Certified Planners
26. Tanya Trujillo, Environmental Management Los Alamos
27. Sarah Voorhees, Environmental Management Los Alamos
28. Marlene, Wilden, Exchange Monitor
29. Elicia Williams, Environmental Management Los Alamos
30. Steve Yanicak, New Mexico Environment Department

Minutes

I. Call to Order

The meeting of the Northern New Mexico Citizens' Advisory Board (NNMCAB) was held on March 19, 2026, in a virtual format. The meeting of the Northern New Mexico Citizens' Advisory Board was called to order at 1:01 p.m. Ms. Kara Hetrick called the meeting to order.

Ms. Beverly Martin presided over the meeting.

The meeting of the NNMCAB was posted in the *Federal Register* in accordance with the Federal Advisory Committee Act.

II. Establishment of a Quorum (Roll Call)

At the call to order, six NNMCAB members were online, and a quorum was not met. A quorum was met at 1:15 p.m.

III. Welcome and Introductions

Ms. Beverly Martin welcomed everyone to the March Board Meeting. Ms. Martin requested that board members online introduce themselves.

IV. Old Business

a. Update from Chair/Vice-Chair

Ms. Martin stated that she would provide a history of her past work at Bayo Canyon.

Ms. Martin stated that Bayo Canyon is a recreational site in Los Alamos. The canyon was the site of the Radioactive Lanthanum program that began in 1944 during the Cold War. Over 250 explosive firing tests were conducted with the intent to learn the placement of high explosives around radioactive sources to acquire a symmetrical implosion. The experiments were non-nuclear, but they utilized strontium-90 as the source. Lanthanum was acquired from Oak Ridge National Laboratory, and it was milked to get strontium-90. It is said that Hans Bethe performed calculations on the back of an envelope to achieve perfect symmetrical implosions, and that process is still in use. The source was surrounded by high explosives, and toluene detectors were attached to diagnostic equipment. Environmental remediation on the site began in the 90's. The remediation included shrapnel cleanup, soil sampling, and drilling of 96 bore holes. During the shrapnel cleanup process, a classified item was located and transferred to a safe, and an area containing buried strontium-90 was discovered. Three scientists who worked on the project were located and utilized as subject matter experts (SME). The SME's provided information on the location of buried items and events.

V. New Business

No new business to discuss.

VI. Update from NMED

Mr. JohnDavid Nance thanked the Board for inviting him to present.

Consent Order - Mr. Nance stated that the New Mexico Environment Department (NMED) and the Department of Energy (DOE) signed the Settlement Agreement and executed the modified Consent Order in 2024. DOE submitted its first proposed appendices for A, B and C under the modified Consent Order in June of 2025. NMED finalized the Fiscal Year (FY) 2026 appendices on October 10, 2025, and DOE submitted the FY27 proposal that was due in the summer of 2025. Mr. Nance and the designated agency manager are in preliminary discussions.

Groundwater – The SIMR-3 well began the development phase on March 6, 2026. NMED collected split post development samples on the lower screen on March 14, 2026. The samples will be sent for analysis and preparation for the collection of development samples for the upper screen.

Administrative Compliance Orders - On February 11, 2026, NMED issued an Administrative Compliance Order on a set of violations on the Consent Order of the Los Alamos National Laboratory's (LANL) treatment of the hexavalent chromium.

Corrective Action Documents – On February 11, 2026, an Administrative Compliance Order was issued for violations of the deferral of Material Disposal Area (MDA) C. Deferring the site delays the cleanup of approximately 11-acre landfill.

Permit Related Activities – The LANL Hazardous Waste Permit renewal application was submitted on July 10, 2025, and determined administratively complete on September 9, 2025. NMED is reviewing technical comments regarding the temporary authorization of the Flamed Waste Tridium Containers (FTWC). The containers were vented and moved to Waste Control Specialists (WCS) in November 2025. In March 2026 NMED received a Compliant Closure letter from the permittees, and it is being reviewed for completeness.

In January 2026, the Enforcement Compliance Division performed inspections of the domes in Technical Area (TA)- 54. The Enforcement Compliance Division inspection was to address the legacy waste and the condition of the containers held in TA-54

WIPP Update – NMED is in the process of initiating a modification to the Waste Isolation Pilot Plant (WIPP) permit. The modification will aid with the language to facilitate the prioritization of legacy waste and LANL legacy waste. The WIPP Panel 12 will no longer be available in the current WIPP permit term. Panel 12 is anticipated to come online in 2035. This was approved during the WIPP permit renewal negotiation. This information will be extended beyond the current permit duration, and NMED is working through the agency-initiated permit modification. The draft is expected by the end of April, and a public comment period will then take place.

A Class 2 modification has been requested. A public pre-submittal meeting will take place on March 24, 2026, from 12:00 noon to 2:00 p.m. at the Skeen Whitlock building in Carlsbad. A Zoom option is available. The Class 2 Permit Modification Request (PMR) is proposed to revise the reporting frequencies and clarify the reporting periods associated with both volatile organic compound and groundwater surface elevation reports. This will also incorporate groundwater surface elevation into the annual CALIBRA groundwater report and delineate reporting periods associated with the water level monitoring reporting periods. The PMR will also revise the Mine Ventilation Rate Monitoring Report permit Part 4 and permit Attachment A2 and will remove permit Attachment Part O, which is the Mine Ventilation Rate Monitoring Plan.

The following WIPP and generator sites audits will take place.

Idaho National Laboratory – March 23, 2026

Oakridge National Laboratory – April 20, 2026

LANL – May 18, 2026

Shipment Update – From January 1, 2025, through December 31, 2025, there have been 441 total shipments to WIPP: 276 from Idaho National Laboratory; 102 from LANL; 52 from Savannah River Site; 8 from Oakridge National Laboratory. Argonne National Laboratory and Lawrence Livermore have not had shipments.

WIPP extended their maintenance outage. It began on January 5, 2026, and is scheduled through March 13, 2026. Shipments resumed on March 1, 2026, to the WIPP site.

From January 1, 2026, through March 13, 2026, there have been seven total shipments to WIPP: 3 from Idaho National Laboratory; 4 from LANL.

VII. Update from EM Los Alamos Field Office

Ms. Jessica Kunkle stated that she has been selected to participate in the Deputy Secretaries' Rotational Program for senior executive service members. While she is on rotation, Dr. Stanley Pyram will be the acting Environmental Management Los Alamos (EM-LA) Field Office Manager. Dr. Pyram is from the Savanna River Site in South Carolina.

The Hexavalent Chromium Interim Measures (IM) remain paused at the request of NMED. The request was made on November 18, 2025. Drilling activities at SIMR-3 are in progress, and a full installation and transition into a monthly sampling program will take place later in

the year. The next well to be drilled will be R-80 and will allow for the continuation of characterization of the chromium plume.

DOE received three Administrative Compliance Orders in February 2026 from NMED. Two of the orders were for the Hexavalent Chromium Campaign, and the other for MDA C. DOE filed their official responses to the Administrative Compliance Orders on March 13, 2026, and the responses are available for viewing on the EM-LA website. ([2026 Administrative Compliance Orders](#)) DOE also initiated Technical Dispute Resolutions with NMED for the applicability of the Consent Order to NMED and its bureaus and NMED's November 18, 2025, direction to cease injection operations associated with the DP1835 permit for the Chromium IM.

Preparation activities for the demolition of the excess process contaminated facility called the ion beam facility, are underway and making good progress. The facility was built to support cold war activities and has been an excess building for the National Nuclear Security Administration (NNSA) for around 26 years. APTIM Federal Services is the prime contractor, and they have been working to prepare the facility and site for demolition activities. Demolition activities are planned for the latter part of the year.

a. Questions

Mr. McLaughlin asked if DOE's responses to the compliance orders were posted on the NMED website.

Ms. Kunkle stated that the responses are posted on the NMED website.

Mr. McLaughlin requested an up-to-date accumulated cost of the work that has been done involving the plume.

Ms. Kunkle stated that the information would be provided to the NNMCAB.

VIII. Update and Look Ahead from N3B

Mr. Brad Smith wished Ms. Kunkle the best in her rotation and stated that Dr. Pyram has met with his staff and himself on several occasions, and he looks forward to working with him.

Mr. Smith stated that he is very pleased with N3B's safety rates. His workforce is taking the time to plan and understand their work, and this has led to a decrease in injury trends. On February 23, 2026, N3B participated in LANL's Annual Emergency Exercise. This provided the opportunity to work alongside Triad, Los Alamos County, and other organizations in a hotwash.

A total of 32 shipments of Transuranic (TRU) Waste has been shipped to WIPP in the first quarter of FY26. WIPP was shut down to complete preventative corrective maintenance on the mine, and it reopened for shipments on March 10, 2026. N3B is on track to exceed its 40-shipment goal for 2026. In the first quarter, almost 130 cubic meters of waste were shipped from LANL to WIPP. A total of 740 cubic meters of TRU waste and low-level waste combined have been shipped to the WIPP facility. The Corrugated Metal Pipe (CMP) campaign is ongoing, and 50% of the CMP's have been characterized and are now part of a backlog for shipments to WIPP.

Construction on the SIMR-3 well was completed on March 5th, 2026. Well development is now being completed, and it is anticipated that SIMR-3 will provide additional data on the chromium plume. The well drilling contractor has begun mobilizing equipment for Monitoring Well R-80.

N3B was given a five-year option period. N3B is coming to the end of the first three-year option period, and the final two-year option period on the contract will begin at the end of April. N3B continues to conduct resource evaluations that include skill set reviews. A total of 650 members of the workforce has been reskilled and placed in other positions. Leadership development, project management and coursework continue to ensure a solid basis of the continuance of work. Since inception of the contract, N3B has awarded \$3 million in contributions to the community, continues to work with LANL on education outreach and has donated approximately 4,000 hours in nonprofit volunteer work.

a. Questions

Mr. Grogan asked what a hotwash is.

Mr. Smith stated that it is a discussion between all the participants at the event.

Mr. Pacheco asked if N3B plans to continue the shipment pace,

Mr. Smith stated that that is their intention and they would like to triple the progress they had in 2025. WIPP does have an at-ready agreement with LANL, so shipments are coordinated. A combination of CMP drums and drill and drain drums are being prepped for the next shipments.

Mr. Pacheco asked if the weather has effected the shipments.

Mr. Smith stated that the dry weather has had its benefits and drawbacks. The dryness has created a fire risk, so the workforce has begun vegetation control.

Mr. Martin asked for a volume of Legacy TRU Waste that remains at LANL.

Mr. Smith stated that he would provide the answer to the NNMCAB.

IX. Presentation on "LANL Legacy Cleanup: Corrective Action Process for Aggregate Areas"

Mr. Scott Muggleton presented on "LANL Legacy Cleanup: Corrective Action Process for Aggregate Areas." An electronic copy of the presentation may be obtained from the NNMCAB staff. (Yolanda.valdez@em.doe.gov or bridget.maestas@em.doe.gov)

Mr. Scott Muggleton was introduced, and he stated he also worked on Bayo Canyon campaign. Mr. Muggleton provided a brief overview of the work he performed for the Bayo Canyon campaign.

Mr. Muggleton stated that areas of LANL are broken up into aggregate areas for remediation. Aggregate areas are areas that fall in a canyon or watershed that have been designated as Areas of Concern (AOC) and Solid Waste Management Units (SWMU). The goal is to conduct corrective actions so that contaminated soil and debris do not result in an unacceptable risk to human health and ecological receptors. There is a total of 900 AOC's/SWMUs under the Consent Order Class A campaign, and a total of six AOC/SWMUs campaigns have been completed. Work on all campaigns follow the Resource Conservation and Recovery Act (RCRA) and corrective action processes under the Consent Order. Phase 1

of the Starmer/Upper Pajarito Canyon and Twomile Canyon Aggregate Area has been completed, and future campaigns will consist of work in the Portrillo and Fence Canyon aggregate areas.

a. Questions

Mr. Grogan asked if any of the aggregate areas from the presentation were involved in the Royal Demolition Explosives (RDX).

Mr. Muggleton stated that RDX areas have been involved. Sampling has taken place in TA-16, upper Upper Watershed area, and Canyon del Valle.

Ms. Martin asked if sites that are proposed for no further action are carried out by SWMUs or if all SWMUs need to be complete and then the proposal made.

Mr. Muggleton stated that it is not necessary for all the SWMUs to be complete, but they must go through NMED's investigation report process.

Ms. Martin asked if the background levels developed in the 1990's have remained constant.

Mr. Muggleton stated that the 1998 background study is still utilized and has not been changed. It remains the background study for all the various volcanic units.

Ms. Martin asked if TA-21 will be proposed for residential use.

Mr. Muggleton stated that TA-21 is an aggregate area and its proposal for residential use will be evaluated when the work plans are either updated or revised.

Mr. Smith stated that when that proposal is made, N3B will work with EM-LA, and the land disposition will be discussed.

Ms. Martin asked what the completion date is for the Environmental Remediation (ER) program.

Ms. Hetrick stated that she will get a comprehensive answer to the NMMCAB. N3B's contract continues for two more years, and ER work will continue for that time.

X. Public Comment Period

Ms. Martin opened the floor for public comment at 3:15 p.m.

Mr. Scott Kovac, Nuclear Watch New Mexico, stated the following:

"Nuclear Watch New Mexico recently reviewed groundwater samples taken during 2025 in LANL's public environmental database known as "Intellus New Mexico." We found 533 cases of regulatory exceedances involving numerous different toxic and carcinogenic contaminants.

In February 2026, the New Mexico Environment Department issued Administrative Compliance Orders and civil penalties for violations of groundwater standards concerning a massive hexavalent chromium plume. The Lab had been ineffectively remediating the mile-long chromium plume ever since it was first discovered in 2004. Hexavalent chromium is a highly toxic, carcinogenic compound that, if inhaled or ingested, can cause lung cancer, nasal ulcers, skin irritation, and organ damage. NMED

1 assessed a total of \$15.8 million in civil penalties and is requiring the Department of
2 Energy to submit a revised work plan and schedule for approval.

3 From 1956 to 1972, the Lab used water containing potassium dichromate, with
4 chromium in its hexavalent form, as a corrosion inhibitor in cooling towers. The
5 contaminated water was discharged untreated into Sandia Canyon, releasing as much as
6 160,000 pounds of potassium dichromate. Over a 3-year period ending in November
7 2022, LANL extracted and treated more than 400 million gallons of water but only
8 removed 680 pounds of chromium. At this rate, it will take more than a century to
9 cleanup LANL's threat to regional groundwater.

10 Groundwater contamination under LANL cries for greater attention and regulation,
11 given limited resources in an increasingly arid state. Chemicals used to make high
12 explosives for nuclear weapons have also reached the regional groundwater aquifer.
13 The DOE Office of Environmental Management at LANL started work in 2015 on a plan
14 to clean up a decades-old concentration of RDX (Royal Demolition Explosive).
15 Contaminated surface soil was removed but the RDX groundwater plume 1,000 feet
16 below remains untreated. Several RDX standard exceedances are detected every year
17 and repeatedly flagged by NMED. However, DOE's position is to indefinitely postpone
18 cleanup, claiming that the RDX will not reach any drinking water supply wells until the
19 year 2100. DOE plans to just let it continue to leach into the environment, hoping that
20 the RDX will just go away.

21 Perchlorates, used in explosives and rocket fuel, also exceeded groundwater
22 contamination standards in 2025. Perfluorooctanesulfonic acid (PFOS) was found to be
23 exceeding the New Mexico State standard in 2025. PFOS is banned in California and
24 Maine and restricted internationally. Although of low acute toxicity, PFOS has attracted
25 much attention for its pervasiveness and environmental impact.

26 Cleanup funding by the DOE Office of Environmental Management is currently being cut
27 to \$280 million. In contrast, funding for the Lab's nuclear weapons program, which
28 caused the mess to begin with, has more than doubled over the last decade to \$5 billion
29 annually. This is mostly driven by expanded production of plutonium "pit" bomb cores
30 for new-design nuclear weapons. LANL and DOE plans for Lab cleanup have always been
31 cleanup on the cheap, which is to "cap and cover" some half-million cubic yards of
32 radioactive and toxic wastes, leaving them permanently buried in unlined pits and
33 trenches as a perpetual threat to groundwater.

34 But now even this inadequate cleanup may be under threat. The DOE Assistant
35 Secretary of Environment Management recently announced that his Office's name
36 would be changed to "The Office of Nuclear Restoration and Revitalization." This aligns
37 with Trump's executive orders promoting the third or fourth self-proclaimed
38 "renaissance" of nuclear energy, this time likely involving massive data centers and
39 artificial intelligence. This will be energy and water intensive, no doubt further
40 deprioritizing comprehensive cleanup.

41 With no further public comment, Ms. Martin closed public comment at 3:22 p.m.

XI. Update from Executive Director

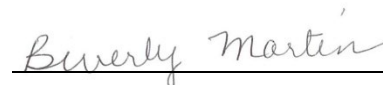
Ms. Maestas welcomed Dr. Pyram to EM-LA and expressed her gratitude to the members of the board, Ms. Kunkle, Mr. Smith, Mr. Muggleton, and Mr. Nance. Ms. Maestas stated that Ms. Elenor Bravo and Ms. Christy Green have served their two-year terms and will be departing from the board at the end of March. Mr. Miguel Vigil has completed five years and will not serve another term. Mr. Patricio Pacheco has completed his six-year term. He has served as Chair and Vice-chair of the board, and his time on the NNMCAB is greatly appreciated.

The next meeting of the NNMCAB will take place via WebEx on May 20, 2026, from 1:00 p.m. to 4:00 p.m.

XII. Adjournment

With no additional business to discuss, Ms. Hetrick adjourned the meeting at 3:22 p.m.

Certified By:

 04/07/2026
Ms. Beverly Martin, Chair

***Minutes prepared by Yolanda Valdez, Executive Assistant, NNMCAB**

Attachments

1. Final NNMCAB Meeting Agenda for 03/19/2026
2. Biography, Scott Muggleton, N3B, Director, RCRA Remediation Program
3. Biography, Jason Roberts, N3B, Manager, Environmental Compliance
4. Presentation by Scott Muggleton, N3B, "LANL Legacy Cleanup: Corrective Action Process for Aggregate Areas"
5. NNMCAB Draft Meeting Schedule 2026

***All NNMCAB meetings are recorded. The written minutes are intended as a synopsis of the meeting.**

Northern New Mexico Citizens' Advisory Board
Thursday, March 19, 2026
Virtual Meeting via WebEx
1:00 p.m. to 4:00 p.m. (MDT)

(Please see WebEx Call-In Information Below)

AGENDA



<u>Time</u>	<u>Action</u>	<u>Presenter</u>
1:00 p.m.	Call to Order	Kara Hetrick, Alternate DDFO
	Welcome and Introductions	Beverly Martin, Chair
	Overview and Approval of Agenda	
1:05 p.m.	Old Business	Beverly
	a. Update from Chair and Vice-Chair	Beverly/Jose Villegas
	b. Other Items	
1:10 p.m.	New Business	Beverly
	a. Other Items	
1:15 p.m.	Update from NMED	JohnDavid Nance, Hazardous Waste Bureau Chief
1:45 p.m.	Update from EM Los Alamos Field Office	Jessica Kunkle, EM-LA Manager
2:00 p.m.	Update and Look Ahead from N3B	Brad Smith President and General Manager
2:30 p.m.	"LANL Legacy Cleanup: Corrective Action Process for Aggregate Areas"	Scott Muggleton N3B RCRA Remediation Program Director
3:30 p.m.	Public Comment Period	
3:45 p.m.	Update from Executive Director	Bridget Maestas
4:00 p.m.	Adjourn	Kara Hetrick

Meeting number (access code): 2823 046 0659

Meeting password: AYtkSgCd226

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Scott Muggleton

Director, RCRA Remediation Program

Scott Muggleton serves as the Director of the Resource Conservation and Recovery Act (RCRA) Remediation Program for Newport News Nuclear BWXT Los Alamos (N3B). He leads an organization of professional staff and subcontracted personnel responsible for executing environmental cleanup under the Consent Order with the New Mexico Environment Department (NMED). Scott oversees regulatory reporting, multi-year strategic planning for multiple remediation campaigns, and directly engages with the Department of Energy (DOE) Environmental Management Los Alamos Office and NMED to ensure compliance with local, state, and federal requirements.

Scott has more than 16 years of experience in environmental remediation project and program management in support of DOE's mission at Los Alamos National Laboratory. Prior to being named director, he served as project manager for N3B beginning in 2023, where he served as acting director and led the 5-year strategic planning and annual Consent Order negotiations.

Before joining N3B, Scott spent 14 years with TerranearPMC, LLC, where he developed significant technical expertise— starting as a field geologist conducting borehole drilling and vapor and groundwater monitoring well installation. He progressed to field team leader, directing soil sampling and remediation excavations and then oversaw complex multi-crew field campaigns, and ultimately was promoted to senior project manager leading competitive procurements and executing multi-million dollar remediation contracts.

Scott holds a Master of Science in Earth and Planetary Sciences from the University of New Mexico and a Bachelor of Science in Geologic Sciences from Binghamton University in New York.

N3B is a limited liability company owned by HII Nuclear and BWX Technologies. N3B manages the Los Alamos Legacy Cleanup Contract for the U.S. Department of Energy's Environmental Management Los Alamos (EM-LA) Field Office.





Jason Roberts

Manager, Environmental Compliance

Jason Roberts is the Newport News Nuclear BWXT Los Alamos (N3B) environmental compliance manager and has been with the company since 2023. Jason and his team are responsible for writing, reviewing, approving and submitting regulatory reports under the Clean Air Act, the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, and other reporting under New Mexico regulatory requirements.

Jason has over 30 years of increasing regulatory compliance experience, including hazardous and solid waste program management, managing compliance for multiple RCRA permitted sites for a national hazardous waste disposal company, RCRA permitting, and managing storm water and industrial wastewater regulatory requirements.

Before joining N3B, Jason was the waste and water compliance supervisor for a petroleum refinery. He also spent multiple years as a senior RCRA compliance specialist for a consulting firm.

N3B is a limited liability company owned by HII Nuclear and BWX Technologies. N3B manages the Los Alamos Legacy Cleanup Contract for the U.S. Department of Energy's Environmental Management Los Alamos (EM-LA) Field Office.





**Presentation for
Northern New Mexico Citizens' Advisory Board
LANL Legacy Cleanup: Corrective Action Process for
Aggregate Areas**

Presented by Scott Muggleton

N3B RCRA Remediation Program Director

Cleaning Up Today for a Safer Tomorrow

Introduction

Los Alamos Legacy Cleanup Contract



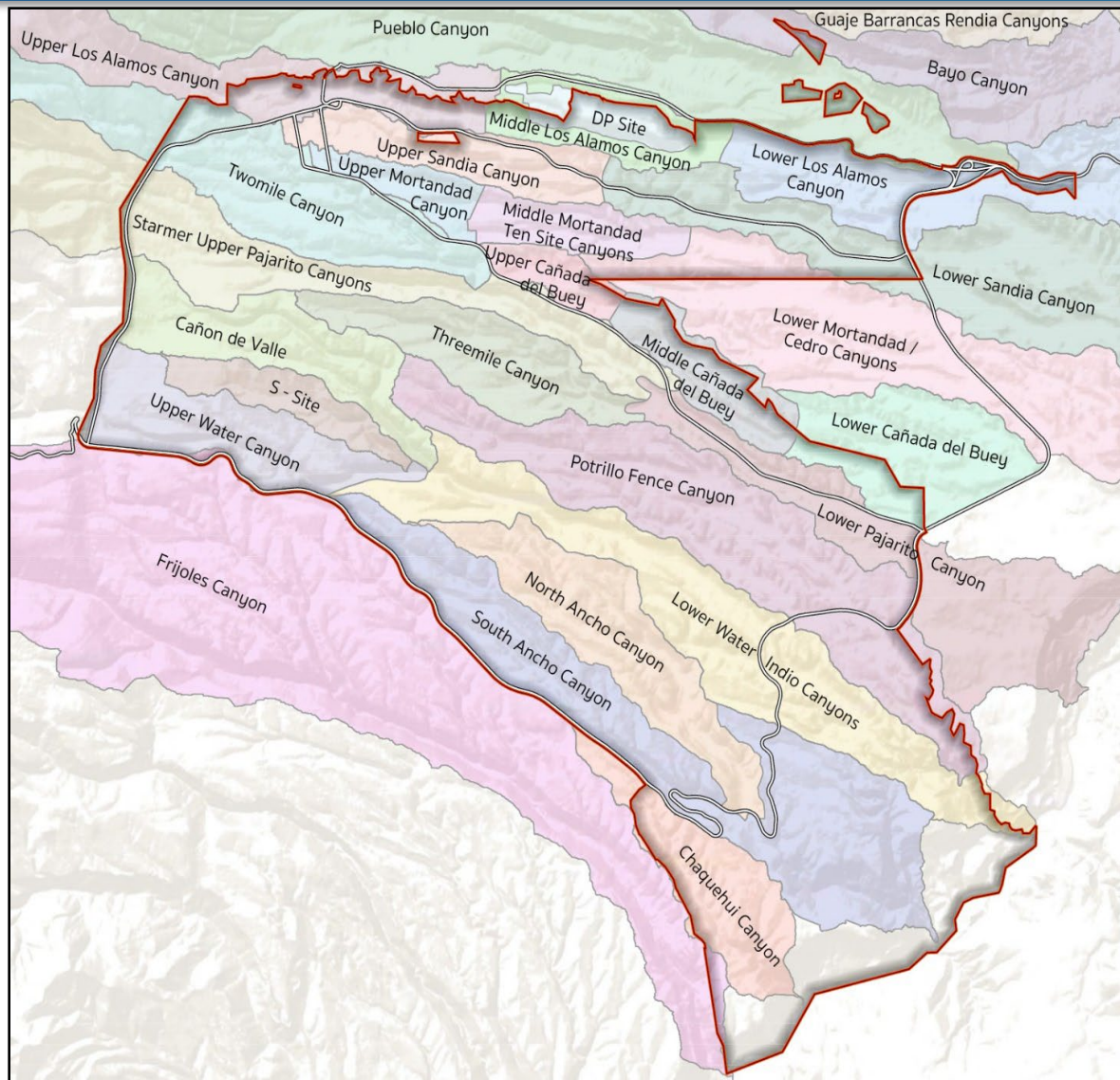
Aggregate Areas: What are they?

- New Mexico Environment Department (NMED) regulates Resource Conservation and Recovery Act (RCRA) corrective action activities regarding legacy waste at Los Alamos National Laboratory (LANL) under the 2016 Compliance Order on Consent, as revised in 2024 (Consent Order).
- Aggregate Area: An area within a single watershed or canyon made up of one or more solid waste management units (SWMUs) or areas of concern (AOCs) and the media affected or potentially affected by releases from these SWMUs or AOCs, and for which investigation or remediation, in part or in entirety, is conducted for the area as a whole to address area-wide contamination, ecological risk assessment, and other factors.
- Solid Waste Management Unit (SWMU): Any discernable unit at which solid waste has been placed at any time, and from which NMED determines there may be a risk of a release of hazardous waste or hazardous waste constituents, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at the Facility at which solid wastes have been routinely and systematically released; they do not include one-time spills.

Aggregate Areas: What are they?

- Area of Concern (AOC): Any area having a known or suspected release of hazardous waste or hazardous constituents that is not from a solid waste management unit and that the Secretary of NMED has determined may pose a current or potential threat to human health or the environment. An AOC may include buildings and structures at which releases of hazardous waste or constituents were not remediated, including one-time and accidental events.
- Aggregate Areas are combined into Campaigns in the Consent Order.
- U.S. Environmental Protection Agency (EPA) additionally regulates cleanup through the Toxic Substances Control Act (TSCA) particularly with SWMUs and AOCs potentially contaminated with polychlorinated biphenyls (PCBs).

Aggregate Areas: Overview



- **CLEANUP GOAL:** Conduct corrective actions so that contaminated soil and debris do not result in unacceptable risk to human health and ecological receptors based on current and reasonably foreseeable land use.
- **CAMPAIGNS:** Campaigns consist of corrective action activities using a risk-based approach to grouping, prioritizing, and accomplishing such activities at SWMUs and AOCs.

Aggregate Area: History

- Contain soil and debris contaminated from legacy operations
 - Manhattan Project
 - Cold War Era
- Potential contamination may impact soil, tuff, surface water, groundwater, and sediment



Investigation sampling at
Starmer/Upper Pajarito Canyon
Aggregate Area

Aggregate Areas: Consent Order Class A Campaigns

Campaigns in Progress	Total SWMUs/AOCs
Historical Properties Completion	93
Pajarito Watershed	178
Southern External Boundary	74
Supplemental Investigation Reports	226
Sandia Canyon Watershed	70
Upper Water Watershed	273

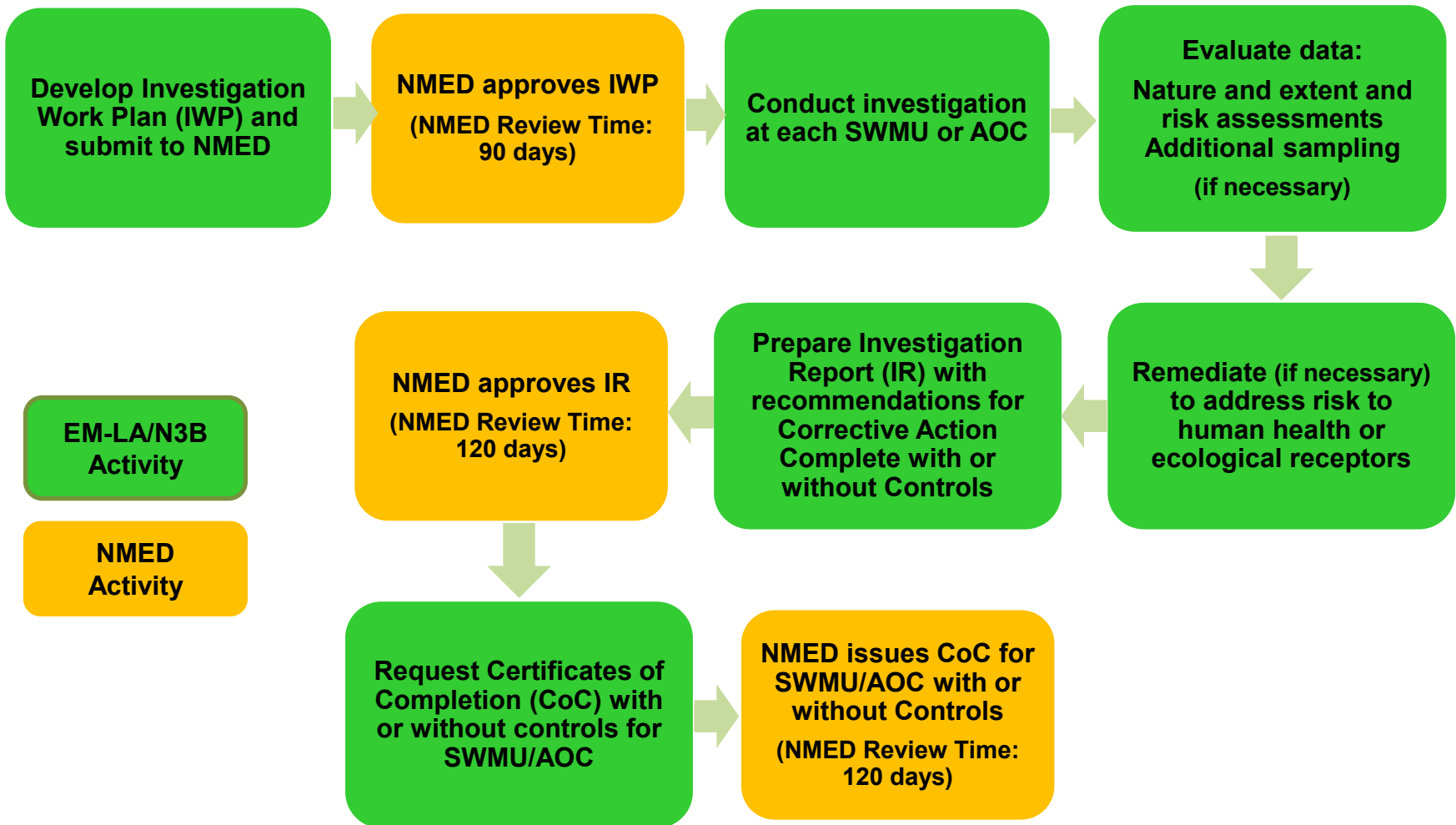
Campaigns Completed	SWMUs/AOCs
Known Cleanup Sites (Above SSLs)	6

Summary of RCRA Corrective Action Process



RCRA = Resource Conservation and Recovery Act

Corrective Action Process per the Consent Order



Evaluate Data – What is involved

Evaluate data:

Nature and extent and risk assessments

Additional sampling and remediation, if necessary

Are the inorganic chemicals detected above background values?

If yes, conduct statistical tests to determine if different than background.

Retain as contaminants of potential concern (COPCs) all detected organic chemicals and radionuclides.

Vertical extent of COPCs: do concentrations increase with depth?
Lateral extent of COPCs: do concentrations increase away from the COPC point of origin?

Conduct human health and ecological risk assessments.
Evaluate industrial, construction worker, and residential scenarios.
Evaluate for recreational scenario where appropriate.
Evaluate ecological risk assessment for receptors
(plants, earthworms, small mammals, birds, larger mammals)

Types of Environmental Risk Assessments

Human Health:

The process to estimate the nature and probability of adverse health effects in humans who may be exposed to chemicals in contaminated environmental media, now or in the future.

Scenarios

- Residential
- Recreational
- Industrial
- Construction

Ecological:

The process for evaluating how likely it is that ecological receptors may be impacted as a result of exposure to one or more environmental stressors.

Exposure scenarios

- Receptors representing ecosystem groups or a threatened or endangered species

Receptors and Target Risk Levels

Human Health Target Risk Levels

- NMED: Lifetime excess cancer risk of 1×10^{-5} (carcinogens)
- NMED: Hazard Index (HI) of 1 (non-carcinogens)
- DOE: Dose of 25 mrem/year (radionuclides)

Ecological Target Risk Levels

- NMED: Hazard Index (HI) of 1 (non-carcinogens, including both radionuclides and non-radionuclides)

Conduct Risk Assessments – What is involved

Human Health Risk Assessments

Residential and Construction Worker Scenarios

- Evaluate all data from 0-10 ft depth

Industrial and Recreational Scenarios

- Evaluate all data from 0-1 ft depth
- Compare analytical data for each COPC to NMED Soil Screening Levels (SSLs)
- Evaluations are made for Carcinogenic COPCs, Noncarcinogenic COPCs, and Radionuclide COPCs

Ecological Risk Assessments

- Evaluate all data from 0-6 ft depth
- Compare analytical data from each COPC to Ecological Screening Levels
- Threatened and endangered species are assessed

Aggregate Area Challenges

Challenges

- Depleted uranium
- Beryllium
- Archeological, historic, and Manhattan Project National Historical Park
- Threatened and endangered species
- Historical munitions
- LANL mission work
- Weather delays: rain, lightning, wind, snow, and fire



**South Ancho Canyon Aggregate Area
SWMU 33-003(a), Underground Chamber**

Aggregate Areas: Recently Completed Phase I Projects

- **Pajarito Watershed Campaign**

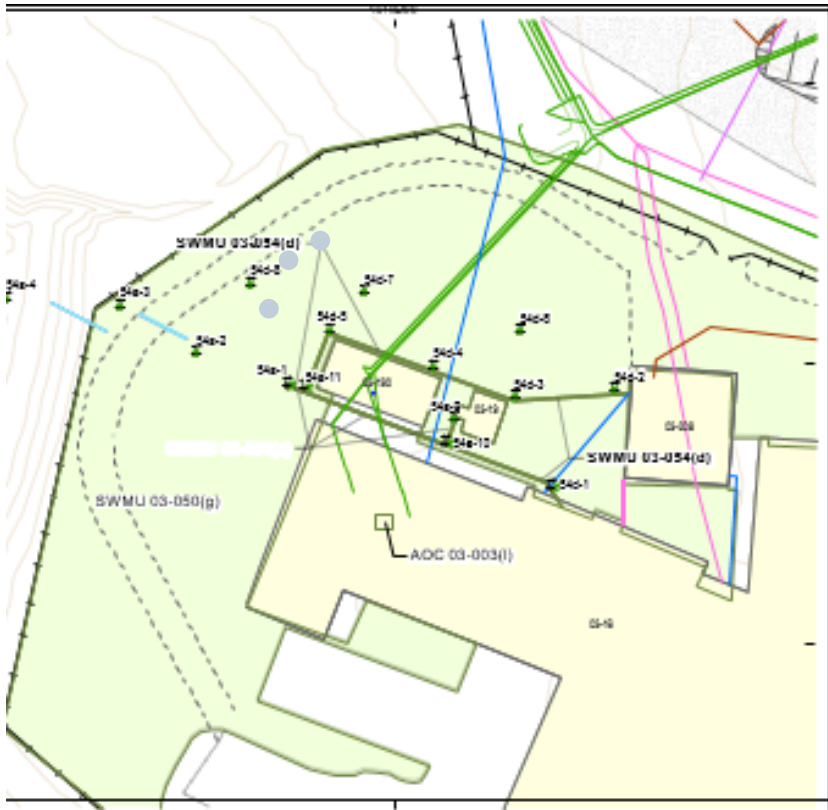
- **Starmer/Upper Pajarito Canyon Aggregate Area**

- 70 SWMUs and AOCs
 - Collected 3,387 investigation samples
 - Field work began August 2022
 - 28 SWMUs/AOCs proposed for Corrective Action Complete without Controls
 - 36 SWMUs/AOCs proposed for Corrective Action Complete with Controls
 - 1 SWMU requires additional sampling and remediation

- **Twomile Canyon Aggregate Area**

- 59 SWMUs and AOCs
 - Collected 3,605 investigation samples
 - Field work began September 2022
 - 43 SWMUs/AOCs proposed for Corrective Action Complete without Controls
 - 15 SWMUs/AOCs proposed for Corrective Action Complete with Controls
 - 2 SWMUs/AOCs require remediation (additional sampling in March 2026)
 - At 1 SWMU, remediation of PCBs was completed January 2026

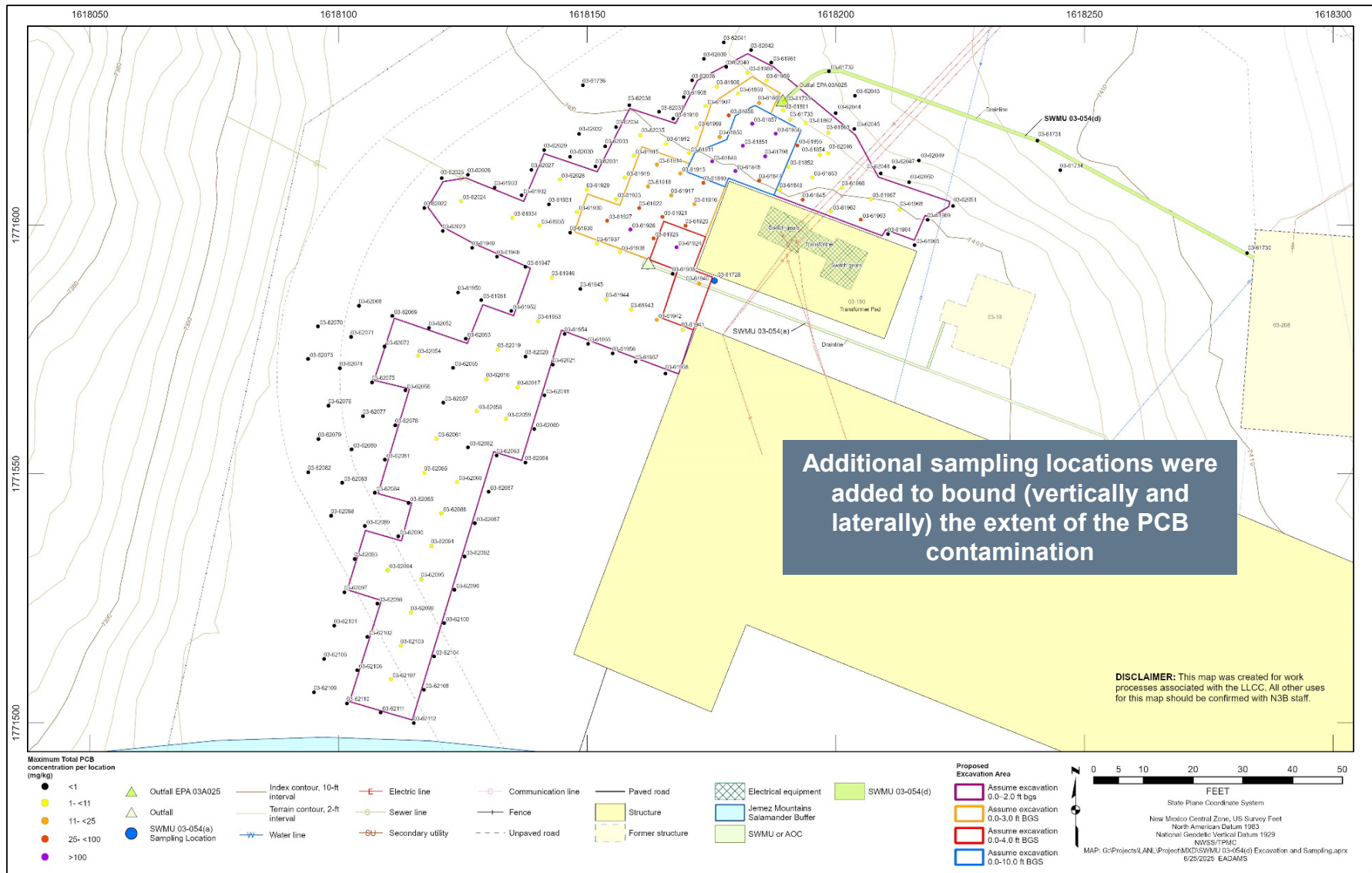
Deeper Examination: Twomile Canyon Aggregate Area



SWMU 03-054(d) – Outfall

- Initial sampling indicated elevated concentrations of polychlorinated biphenyls (PCBs) at 3 locations (identified as red dots) in the surface samples (0-1 ft depth) at concentrations of 1100 mg/kg, 397 mg/kg, and 309 mg/kg
- PCB remediation conducted per TSCA regulations and Consent Order

Twomile Canyon Aggregate Area Excavation Area



Twomile Canyon Aggregate Area – PCB Remediation



Excavation showing step down from 2-ft to 3-ft to 4-ft depth. Photo taken near SW corner of Transformer Pad (03-190) looking north



Deep excavation section (14.6 ft deep); excavation south of 14.6-ft section was backfilled prior to completing 14.6-ft section for safer access/operation - photo taken from above Outfall (EPA 03A025) looking southwest



Backfilling the deep excavation section; dust suppression using water

Twomile Canyon Aggregate Area – PCB Remediation



Photo taken from northwest side of excavation looking east



Photo taken from south end of excavation looking north

Look Ahead: Potrillo and Fence Canyons Aggregate Area

Southern External Boundary Campaign

Work Scope for 9 SWMUs/AOCs:

- Implement NMED-approved Phase II Investigation Work Plan

Phase II Investigation:

- 900 samples

Additional Details:

- **Additional sampling** to define nature and extent as needed according to the Supplemental Investigation Report and to bound the excavation
- **Complete corrective actions** identified in the Phase I Investigation Report, including excavation of soil with elevated risk to construction workers and ecological receptors

Schedule:

- Investigated 4 SWMUs/AOCs in FY23
- Progress Report Summarizing Field Work Implementation: 9/30/23
- Progress Report Summarizing remaining 5 SWMUs/AOCs: 9/30/26 and 9/30/27
- Complete investigation of 5 SWMUs/AOCs in FY26/FY27
- Complete excavation of soil near Firing Site E-F in FY28
- Phase II Investigation Report: TBD

Look Ahead: Potrillo and Fence Canyons Aggregate Area

- **Southern External Boundary Campaign (continued)**

Challenges:

- SWMUs/AOCs are within Weapons Facility Operations (WFO) area, which requires coordination with schedules for core mission activities
- Large volume of excavation at multiple SWMUs
- Chronic Beryllium Disease Prevention Program controls
- Depleted uranium shrapnel area
- Some SWMUs/AOCs are also subject to cultural restrictions (State Historic Preservation Office) and Mexican Spotted Owl restrictions and monitoring for the Jemez Mountain Salamander

Our Goal: Clean Up the Environment & Protect the Land and Water



Questions



**NNMCAB DRAFT MEETING SCHEDULE
2026**

January 21 11:00 a.m. to 2:00 p.m. Board Meeting	WebEx
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March 19 1:00 p.m. to 4:00 p.m. Board Meeting	WebEx
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May 20 1:00 p.m. to 4:00 p.m. Board Meeting	WebEx
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July 15 1:00 p.m. to 4:00 p.m. Board Meeting	WebEx
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September 16 1:00 p.m. to 4:00 p.m. Board Meeting	WebEx
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November 18 Time TBD Board Meeting	TBD
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