

DEPARTMENT OF ENERGY

Environmental Management Los Alamos Field Office (EM-LA) Los Alamos, New Mexico 87544

EMLA-23-BF314-2-1

Mr. Rick Shean Designated Agency Manager Hazardous Waste Bureau New Mexico Environment Department 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6313



September 25, 2023

Subject:Submittal of the Progress Report for Phase II Investigation Report for
Potrillo and Fence Canyons Aggregate Area

Dear Mr. Shean:

Enclosed please find two hard copies with electronic files of the "Progress Report for Phase II Investigation Report for Potrillo and Fence Canyons Aggregate Area." This report fulfills fiscal year 2023 Milestone 9 in Appendix B of the 2016 Compliance Order on Consent under the Southern External Boundary Campaign.

If you have questions, please contact Brenda Bowlby at (360) 930-4353 (brenda.bowlby@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

ARTURO Digitally signed by ARTURO DURAN DURAN Date: 2023.09.21 16:12:24 -06'00'

Arturo Q. Duran Compliance and Permitting Manager U.S. Department of Energy Environmental Management Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files:

Progress Report for Phase II Investigation Report for Potrillo and Fence Canyons Aggregate Area (EM2023-0426)

cc (letter and enclosure[s] emailed): Laurie King, EPA Region 6, Dallas, TX Steve Yanicak, NMED-DOE-OB Neelam Dhawan, NMED-HWB Ricardo Maestas, NMED-HWB Kylian Robinson, NMED-HWB Jeannette Hyatt, LANL Stephen Hoffman, NA-LA William Alexander, N3B Pattie Baucom, N3B Darrik Stafford, N3B Brenda Bowlby, N3B Robert Edwards III, N3B Michael Erickson, N3B Dana Lindsay, N3B Christian Maupin, N3B Carolyn Mullins, N3B Vince Rodriguez, N3B Bradley Smith, N3B Jeffrey Stevens, N3B Troy Thomson, N3B John Evans, EM-LA Brian Harcek, EM-LA Michael Mikolanis, EM-LA Kent Rich, EM-LA Cheryl Rodriguez, EM-LA Susan Wacaster, EM-LA emla.docs@em.doe.gov n3brecords@em-la.doe.gov Public Reading Room (EPRR) PRS website

September 2023 EM2023-0426

Progress Report for Phase II Investigation Report for Potrillo and Fence Canyons Aggregate Area



Newport News Nuclear BWXT-Los Alamos, LLC (N3B), under the U.S. Department of Energy Office of Environmental Management Contract No. 89303318CEM000007 (the Los Alamos Legacy Cleanup Contract), has prepared this document pursuant to the Compliance Order on Consent, signed June 24, 2016. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory. The U.S. government has rights to use, reproduce, and distribute this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.

Progress Report for Phase II Investigation Report for Potrillo and Fence Canyons Aggregate Area

September 2023

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1.0 PURPOSE OF REPORT

This progress report fulfills fiscal year (FY) 2023 Milestone #9 of the 2016 Compliance Order on Consent (Consent Order), Appendix B, under the Southern External Boundary Campaign. Milestone #9 is a progress report summarizing the fieldwork implementation and status of site investigations conducted under the approved, 2021 "Phase II Investigation Work Plan for Potrillo and Fence Canyons Aggregate Area" (Phase II IWP) (N3B 2021, 701660; NMED 2022, 701960). The Potrillo and Fence Canyons Aggregate Area is one of five Aggregate Areas in the Southern External Boundary Campaign. All solid waste management units (SWMUs) and areas of concern (AOCs) within the Potrillo and Fence Canyons Aggregate Area are located at Technical Area 15 (TA-15) and TA-36 (Plate 1). The SWMUs proposed for sampling in the Phase II IWP are listed below:

- SWMU 15-002 Former Burn Pits
- SWMUs 15-004(b) and 15-004(c) Firing Sites A and B
- SWMU 15-004(f) Firing Site E-F
- SWMU 15-008(a) Surface Disposal Site (E-F Site)
- SWMU 15-009(e) Septic System
- SWMU 36-001 Material Disposal Area AA
- SWMU 36-003(b) Septic System, I-J Site
- SWMU 36-005 Storage Area

2.0 OVERVIEW

This progress report summarizes the field investigations conducted by the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) in accordance with the approved Phase II IWP (N3B 2021, 701660; NMED 2022, 701960). This report also presents the status of fieldwork implementation and site investigations completed to date for the Potrillo and Fence Canyons Aggregate Area.

Sampling has been completed at four of the nine sites:

- SWMU 15-004(b)
- SWMU 15-004(c)
- SWMU 15-009(e)
- SWMU 36-003(b)

Additional sampling and required remediation will occur after analytical data have been received and evaluated for these four sites.

Radiological surveys were proposed for the 60-acre area associated with Firing Site E-F [SWMUs 15-004(f), 15-008(a), and 15-009(e)]. Survey methods included Field Instrument for Detection of Low-Energy Radiation (FIDLER) and sodium-iodide (NaI) scintillator detector methods. The survey was spaced on a 0.5-m grid, and points were surveyed using high-precision global positioning system (GPS). Additional sample locations will be chosen based on detection of elevated radioactivity. The FIDLER and NaI surveys were started in May 2023 and are planned to be completed in September 2023.

Soil removal activities and confirmation sampling and analyses are recommend for three sites [SWMU 15-002, the Former Burn Pits; SWMU 15-004(f), Former Firing Site E-F; and SWMU 15-008(a), Surface Disposal Areas, I-J Site]. These sites were identified in the approved "Supplemental Investigation Report for Potrillo and Fence Canyons Aggregate Area, Revision 1" (SIR) as posing a potentially unacceptable risk under the industrial and/or construction worker scenario or a potentially unacceptable ecological risk (N3B 2019, 700523; NMED 2020, 701070).

2.1 Mobilization and Investigations

Collection of the approximately 562 samples specified in the Phase II IWP began in June 2023 and is scheduled to take approximately 9 months (N3B 2021, 701660; NMED 2022, 701960). Further sampling to define nature and extent of contamination and/or required corrective actions to address site contamination will occur following an evaluation of analytical data.

The subcontractor began site mobilization on May 8, 2023. Additional activities to prepare for sampling and corrective actions included radiological walkover field screening surveys and installation of base-course waste staging and support areas at various sites.

The Potrillo and Fence Canyons Aggregate Area project site is within high explosives (HE) intraline distance. To ensure worker safety, coordination of activities with Los Alamos National Laboratory (LANL or the Laboratory) personnel regarding shot distances and scheduling is needed.

A large base course pad and smaller axillary pads are being built to provide improved and stable surfaces to support infrastructure (e.g., job trailers, waste staging) and to accommodate a haul road for large waste transport trucks that load and transport waste to the disposal facility. The pad measures approximately 400 ft × 600 ft and the initial planned area was completed between May 15 and July 27, 2023. Additional base course area(s) also will accommodate waste and infrastructure as well as access to excavation areas. Before the pad was constructed, the native area was surveyed with the FIDLER.

Sampling activities began on June 13, 2023. Sections 3.0 and 4.0 of this report summarize investigation fieldwork completed in FY 2023. Table 2.1-1 summarizes sampling completed and remaining for Potrillo and Fence Canyons Aggregate Area.

3.0 SUMMARY OF FIELDWORK COMPLETED IN TA-15 FOR FISCAL YEAR 2023

The following sections summarize the status of fieldwork initiated at three SWMUs in TA-15 in FY 2023.

3.1 SWMUs 15-004(b) and 15-004(c)

3.1.1 Site Description and Operational History

SWMU 15-004(b) is inactive Firing Site A, located approximately 450 ft southeast of building 15-183 at TA-15 (Figure 3.1-1). Firing Site A was among the first firing sites to be used at the Laboratory and operated from 1944 to 1957, when it was decommissioned; the firing site was removed in 1967. The 1990 Solid Waste Management Units Report (1990 SWMU Report) (LANL 1990, 007512) describes SWMU 15-004(b) as Firing Site A, a decommissioned firing site, consisting of:

- A control chamber (former structure 15-6) measuring 10 ft long × 10 ft wide × 9 ft high, and
- An x-unit chamber (former structure 15-14) at TA-15 measuring 4 ft long × 4 ft wide × 8 ft high.

A 1958 aerial photograph shows the firing point as an approximately 30-ft-diameter area of land, cleared of vegetation and affected by explosives, located south of the x-unit chamber (former structure 15-14), and confirms the approximate location of the control chamber (former structure 15-6) and the x-unit chamber (former structure 15-14) at Firing Site A (USAF 1958, 015826). Three personnel shelters near the firing site are not part of SWMU 15-004(b).

SWMU 15-004(c) is inactive Firing Site B, located approximately 525 ft southeast of building 15-183 at TA-15 (Figure 3.1-1). The 1990 SWMU Report (LANL 1990, 007512) describes SWMU 15-004(c) as Firing Site B, a decommissioned firing site consisting of an x-unit chamber (former structure 15-74) and a plate barricade (former structure 15-73) at TA-15. The x-unit chamber (former structure 15-74) was 8 ft long × 4 ft wide × 2 ft high, and the plate barricade (former structure 15-73) was 5 ft long × 4 ft wide × 2 ft high, and the plate barricade (former structure 15-73) was 5 ft long × 4 ft wide × 2 ft high. A control chamber (former structure 15-6), measuring 10 ft long × 10 ft wide × 9 ft high, was most likely used for Firing Site B as well as Firing Site A [SWMU 15-004(b)]. A 1958 aerial photograph shows the firing site as an approximately 30-ft diameter area of land, cleared of vegetation and affected by explosives, located south of the plate barricade (former structure 15-73), and confirms the approximate location of the x-unit chamber (former structure 15-74), plate barricade (former structure 15-73), and confirms the approximate location of the x-unit chamber (former structure 15-74), plate barricade (former structure 15-73), and confirms the approximate location of the x-unit chamber (former structure 15-74), plate barricade (former structure 15-73), and confirms the approximate location of the x-unit chamber (former structure 15-74), plate barricade (former structure 15-73), and confirms the approximate location chamber (former structure 15-6) (USAF 1958, 015826).

Inactive Firing Site B [SWMU 15-004(c)] is located approximately 75 ft southeast of inactive Firing Site A [SWMU 15-004(b)]. Aerial photographs taken in 1958 show that the areas of land at these two firing sites were relatively small, cleared of vegetation and affected by explosives, and located approximately 400 ft south of the x-unit chamber (former structure 15-14) and control building (former building 15-74) that are associated with Firing Sites A and B (USAF 1958, 015826). Both firing sites and associated structures were removed and the ground surface was regraded in 1967. Before the structures were removed, the x-unit chamber and the control building were surveyed for HE and radionuclides; no HE or radionuclides were detected (Buckland 1965, 005305; Courtright 1965, 005282).

Information is limited concerning the materials used in tests at Firing Site A [SWMU 15-004(b)] and Firing Site B [SWMU 15-004(c)]. Most of the experiments conducted at SWMU 15-004(b) involved small amounts of HE (i.e., up to 50 lb) (LANL 1995, 050294, p. 4-3). Other materials used at Firing Sites A and B included natural uranium, beryllium, lead, and mercury. The amount of uranium used in any one test was a few kilograms (LANL 1993, 020946, p. 8–5).

3.1.2 Summary of Previous Investigations

Because of their close proximity, SWMUs 15-004(b) and 15-004(c) were investigated together as a single site during the 1982 aerial radiological survey, 1995 Phase I Resource Conservation and Recovery Act (RCRA) facility investigation (RFI), and 2010–2011 Phase I Consent Order investigation (Fritzsche 1989, 008882; LANL 1995, 050294; LANL 2011, 208336).

During the 1982 aerial radiological survey, radionuclides were detected above background levels at SWMUs 15-004(b) and 15-004(c) (Fritzsche 1989, 008882).

During the 1995 Phase I RFI, four samples were collected from two depths at two locations at both SWMU 15-004(b) and SWMU 15-004(c) (LANL 1995, 050294, pp. 4-3–4-12). Samples were submitted for analysis of target analyte list (TAL) metals, HE, and isotopic uranium. The resulting data are screening level and show inorganic chemicals detected above background values (BVs), and cesium-137 and europium-152 detected or detected above the fallout values. Based on the sampling data, the RFI report recommended that an expedited cleanup be implemented at SWMU 15-004(b) to remove lead contamination (LANL 1996, 054977, p. 4–12).

In 1996, a voluntary corrective action (VCA) was conducted at SWMU 15-004(b) to determine the extent of lead contamination at the site and to remove soil with lead above the Laboratory-adopted lead preliminary remediation goal (PRG) of 1000 mg/kg (LANL 1996, 054478). Based on x-ray fluorescence (XRF) and HE spot test results, soil was removed until lead concentrations met the 1000 mg/kg PRG (LANL 1996, 055046). Five confirmation samples were collected and submitted for analysis of TAL metals, HE, and isotopic uranium; one sample also was submitted for metals analysis using the U.S. Environmental Protection Agency's (EPA's) Toxicity Characteristic Leaching Procedure (TCLP) (LANL 1996, 055046, p. 8). However, review of historical aerial photographs taken during the preparation of the "Historical Investigation Report for Potrillo and Fence Canyons Aggregate Area" (HIR) (LANL 2009, 105251) and Phase II IWP revealed that the locations of Firing Sites A and B [SWMUs 15-004(b) and 15-004(c)] are south of the areas investigated during the 1995 RFI and the 1996 VCA (LANL 2009, 105251). The RFI and VCA were conducted near the former control building (former building 15-74) and former bunker (former structure 15-14), approximately 400 ft north of the actual locations of the two former firing sites. Therefore, data from samples collected during the 1996 VCA, while not representative of the former firing site locations, were located within the proposed sampling grid in the approved "Investigation Work Plan for Potrillo and Fence Canyons Aggregate Area, Revision 1" (Phase I IWP) (LANL 2009, 106657.8; NMED 2009, 106677). Data from the 1996 VCA are decision level.

During the 2010–2011 Phase I Consent Order investigation conducted at SWMUs 15-004(b) and 15-004(c), a 100-ft × 100-ft grid was established over the entire area around the former control building and bunker locations and south to include the 2 firing sites and the area around the firing sites to the mesa edge (LANL 2009, 106657.8; NMED 2009, 106677; LANL 2011, 208336). A total of 42 samples were collected from 21 locations:

- 14 samples were collected from 7 locations based on elevated metals field-screening results;
- 24 samples were collected from 12 random locations across the sites; and
- 2 samples were collected from 1 location at both SWMUs 15-004(b) and 15-004(c).

Samples were submitted for analysis of cyanide, nitrate, perchlorate, TAL metals, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), dioxins/furans, explosive compounds, polychlorinated biphenyls (PCBs) americium-241, isotopic uranium, and gamma-emitting radionuclides. Data from the 2010–2011 Phase I Consent Order investigation are decision-level.

After the 2011 investigation report (LANL 2011, 208336) had been approved, New Mexico Environment Department (NMED) and DOE entered into a framework agreement for the realignment of environmental priorities at the Laboratory. Specifically, the process for evaluating data to define extent of contamination was revised to provide a greater emphasis on risk reduction, consistent with EPA guidance. The re-evaluation of characterization efforts was documented in the approved SIR (N3B 2019, 700523; NMED 2020, 701070), which concluded that further sampling for vertical extent of thallium was warranted at SWMUs 15-004(b) and 15-004(c).

3.1.3 Investigation Objectives

The objective of the current investigation at SWMUs 15-004(b) and 15-004(c) was to define the nature and extent of thallium contamination and determine whether the site poses an unacceptable risk to human health or the environment as defined in the approved Phase II IWP.

3.1.4 Fieldwork Completed

Fieldwork at SWMUs 15-004(b) and 15-004(c) was conducted on June 15, 2023. A total of six samples were collected from three locations. Samples were collected from 5.0 to 6.0 ft and from 8.0 to 9.0 ft below ground surface (bgs). Samples were analyzed for thallium only. Figure 3.1-1 shows locations sampled at SWMUs 15-004(b) and 15-004(c) in FY 2023.

3.2 SWMU 15-009(e) – Septic System

3.2.1 Site Description and Operational History

SWMU 15-009(e) is a decommissioned septic system that served building 15-27 at Firing Site E-F [SWMU 15-004(f)] at TA-15 (Figure 3.2-1). The 1990 SWMU Report (LANL 1990, 007512) describes SWMU 15-009(e) as a semiactive septic system consisting of a septic tank (structure 15-72) reportedly measuring 4 ft long × 3 ft wide × 5 ft deep, that served building 15-27 and discharged to an outfall in Potrillo Canyon (LANL 1993, 020946, pp. 7–21, 10–20). During the 1997 VCA conducted at SWMU 15-009(e), the decommissioned septic tank (structure 15-72) was uncovered, and the correct dimensions were found to be 9 ft long × 7 ft wide × 5 ft deep with a 1500-gal.working capacity; the tank was constructed of reinforced concrete. The septic system was constructed in 1947 and received sanitary waste from the Firing Site E-F control building 15-27 located approximately 175 ft northeast of the septic tank. Engineering drawings show a 4-in.-diameter vitrified clay pipe (VCP) inlet drainline that exited the west side of building 15-27 and connected to the decommissioned septic tank southwest of the building, and another 4-in.-diameter VCP outlet drainline that discharged from the septic tank to an outfall in Potrillo Canyon approximately 40 ft southwest of the decommissioned septic tank (LANL 1997, 074091, p. 1). The septic tank was used until 1981 when Firing Site E-F last operated.

3.2.2 Previous Investigations

During the 1994 Phase I RFI conducted at SWMU 15-009(e), two samples of the septic tank contents were collected and submitted for analysis of radionuclides, TAL metals, VOCs, and SVOCs (LANL 1995, 050294, pp. 4-23–4-57). Data from that Phase I RFI are screening level and showed inorganic chemicals detected above BVs.

During the 1997 VCA conducted at SWMU 15-009(e), the contents of the septic tank were removed; the interior of the tank was pressure-washed; concrete-chip samples were collected from the interior of the tank to demonstrate the adequacy of the corrective action; and a rinsate sample was collected for waste characterization purposes (LANL 1997, 074091, p. 15). Twelve samples were collected beneath the septic tank and the tank inlet and outlet, adjacent to the septic tank, as well as at the outfall and in drainage channel downgradient of the outfall (LANL 1997, 074091, pp. 1–3). Samples were submitted for analysis of HE and TAL metals; a subset of the samples was also submitted for analysis of VOCs and SVOCs. The septic tank, inlet, and outlets were filled and plugged with expandable concrete and left in place. Data from the 1997 VCA are decision level.

During the 2010–2011 Phase I Consent Order investigation, the investigation work plan required six samples to be collected from two depths (from 0.0–1.0 ft and 3.0–4.0 ft below structures) at three locations: next to the tank inlet, next to the tank outlet, and on the east side of the septic tank at SWMU 15-009(e) (LANL 2011, 208336). All six samples were inadvertently collected from 0.0 to 1.0 ft and 3.0 to 4.0 ft bgs, not below the structures; therefore, the sample results are not presented in the SIR (N3B 2019, 700523). The Phase I IWP also required four samples to be collected from two depths at two locations along the tank inlet drainline at SWMU 15-009(e). All four samples were inadvertently

collected from 0.0 to 1.0 ft and 3.0 to 4.0 ft bgs, not below the drainline; therefore, the sample results are not presented in the SIR. Six samples were collected from three locations at the outfall and within the drainage. All samples were submitted for analysis of cyanide, nitrate, perchlorate, TAL metals, VOCs, SVOCs, explosive compounds, and isotopic uranium; one of the six samples was also submitted for analysis of dioxins/furans and PCBs. The sampling location for the dioxin/furan and PCB analyses was selected based on its proximity to the potential contaminant source. Data from the 2010–2011 Phase I Consent Order investigation are decision level.

After the 2011 investigation report (LANL 2011, 208336) had been approved, NMED and DOE entered into a framework agreement for the realignment of environmental priorities at the Laboratory. Specifically, the process for evaluating data to define extent of contamination was revised to provide a greater emphasis on risk reduction, consistent with EPA guidance. The re-evaluation of characterization efforts was documented in the approved SIR (N3B 2019, 700523; NMED 2020, 701070), which confirmed that additional sampling for inorganic chemicals, organic chemicals, and radionuclides was warranted below the septic tank and drainlines.

3.2.3 Investigation Objectives

The objective of the current investigation at SWMU 15-009(e) is to define nature and extent and determine whether the site poses a potential unacceptable risk to human health or the environment as defined in the approved Phase II IWP (N3B 2021, 701660; NMED 2022, 701960). To meet this objective, the Phase II IWP was implemented and a total of 20 samples were collected from 10 locations.

3.2.4 Fieldwork Completed

Potholing was conducted to locate the drainline. Sample locations near the outfall were relocated to reflect the probable location of the outfall based on the location of the drainline observed in the field. Sampling was conducted between July 11 and July 18, 2023. A total of 20 samples were collected from 10 locations at depths from 0–1 and 3–4 ft below the septic tank, inlet, outlet, and drainline. Samples at the outfall and downgradient were collected from 0–1 and 3–4 ft bgs, and were analyzed for TAL metals, total cyanide, nitrate, perchlorate, VOCs, SVOCs, explosive compounds, isotopic uranium, and pH. Figure 3.2-1 shows the locations sampled at SWMU 15-009(e) in FY 2023. The updated unit boundary based on field conditions will be presented in the final IR for the Phase II investigation.

4.0 SUMMARY OF FIELDWORK COMPLETED IN TA-36 FOR FISCAL YEAR 2023

The following sections summarize the status of fieldwork initiated at one SWMU at TA-36 in FY 2023.

4.1 SWMU 36-003(b) – Septic System, I-J Site

4.1.1 Site Description and Operational History

SWMU 36-003(b) is a decommissioned septic system located at the west end of TA-36 (Figure 4.1-1). The septic system served building 36-55 and the control bunker for Firing Site I-J; the septic system consists of a septic tank (structure 36-61) and its associated drainlines and outfall. The septic tank sits near the edge of Mesita del Potrillo, approximately 100 ft southeast of building 36-55 (LANL 1993, 015313; p. 5–24). The control bunker housed the electronics and instrumentation used in the operation of Firing Site I-J [AOC 36-004(e)] and contained a toilet, sink, and water fountain, all of which were connected to the septic tank via a 4-in.-diameter clay-tile pipe (LASL 1949, 105276). The septic tank is

constructed of reinforced concrete and measures 7 ft long × 3.5 ft wide × 5.73 ft deep with a working capacity of 420 gal. The tank has a buried overflow pipe that previously discharged near the north rim of Potrillo Canyon. The overflow pipe was capped in 1989; the septic tank continued to be used and its contents were periodically removed and taken to a sanitary wastewater treatment plant for treatment and disposal (LANL 1993, 015313; p. 5-24). The septic system was taken out of service in the early 1990s.

4.1.2 Previous Investigations

The contents of the SWMU 36-003(b) septic tank were sampled in 1981; analytical data confirmed that HE was not present (LANL 1993, 015313; p. 5-27). During the 1994 Phase I RFI conducted at SWMU 36-003(b), two samples of the liquid were collected from one location within the tank and four sludge samples were collected from three locations within the tank (LANL 1995, 053985, pp. 5-4–5-12). In addition, five surface samples (0.0–0.5 ft bgs) were collected from four locations in the drainage channel downgradient of the outfall. The samples were field-screened for organic vapors, radioactivity, and HE and were submitted for analysis of TAL metals, HE, VOCs, and SVOCs (LANL 1995, 053985, p. 1-15). Data from the Phase I RFI are screening-level data and are presented in Appendix B of the HIR (LANL 2009, 105251). Screening-level data showed inorganic chemicals detected above BVs and detected HE.

The 1996 VCA implemented at SWMU 36-003(b) included removing the septic tank contents, pressurewashing the tank, and filling the tank with expanding cement. The contents of the tank were disposed of as low-level radioactive waste at Area G at TA-54 and at the TA-50 Radioactive Liquid Waste Treatment Facility. No confirmation samples were collected (LANL 1996, 055072, pp. 1–4).

During the 2010 investigation, a total of 16 samples were collected from 8 locations. At each location, samples were collected at the surface and from 1 subsurface depth. All samples were analyzed at off-site, fixed laboratories for TAL metals, cyanide, nitrate, perchlorate, VOCs, SVOCs, explosive compounds, and isotopic uranium. In addition, 1 sample was analyzed for dioxins/furans and PCBs. Samples were inadvertently collected from 0–1 and 3–4 ft bgs, rather than 0–1 and 3–4 ft below structures, and the data could not be used.

After the 2011 investigation report (LANL 2011, 208336) had been approved, NMED and DOE entered into a framework agreement for the realignment of environmental priorities at the Laboratory. Specifically, the process for evaluating data to define extent of contamination was revised to provide a greater emphasis on risk reduction, consistent with EPA guidance. The re-evaluation of characterization efforts was documented in the approved SIR (N3B 2019, 700523; NMED 2020, 701070), which confirmed that additional sampling for inorganic chemicals, organic chemicals, and radionuclides was warranted under the septic tank, inlet, outlet, and beneath drainlines, but that additional sampling was not warranted below the outfall.

4.1.3 Investigation Objectives

The objective of the current investigation at SWMU 36-003(b) is to define nature and extent and determine whether the site poses a potential unacceptable risk to human health or the environment as defined in the approved Phase II IWP by collecting 12 samples from 6 locations (N3B 2021, 701660; NMED 2022, 701960).

4.1.4 Fieldwork Completed

Fieldwork at SWMU 36-003(b) was conducted from June 7 to June 14, 2023. A total of 14 samples were collected from 7 locations. An additional location was added because the potholing to locate the drainline identified a bend in the drainline that was then targeted for sampling. Samples were collected from 0–1 and 3–4 ft below the septic tank, inlet, outlet, and beneath the inlet and outlet drainline. Samples were analyzed for TAL metals, total cyanide, nitrate, perchlorate, VOCs, SVOCs, explosive compounds, PCBs, dioxins/furans, isotopic uranium, and pH. Figure 4.1-1 shows locations sampled at SWMU 36-003(b) in FY 2023. The updated unit boundary based on field conditions will be presented in the final IR for the Phase II investigation.

5.0 FY 2023 MILESTONE

The requirement of a progress report summarizing the fieldwork implementation and status of Phase II site investigations in the Potrillo and Fence Canyons Aggregate Area has been met by completion and submittal of this progress report. Sections 3.0 and 4.0 describe the fieldwork completed.

6.0 PLANNED WORK IN FY 2024

Fieldwork at Potrillo and Fence Canyons Aggregate Area will continue in FY 2024 to complete the implementation of the approved Phase II IWP (N3B 2021, 701660; NMED 2022, 701960). Activities include sampling to define nature and extent of contamination, as well as the soil removal activities and confirmation sampling and analyses at the three sites [SWMU 15-002, SWMU 15-004(f), and SWMU 15-008] that pose a potentially unacceptable risk under the industrial and/or construction worker scenario or a potentially unacceptable ecological risk. Further sampling and/or required corrective actions to address unacceptable levels of contamination may be required after an evaluation of analytical data and preliminary risk assessments.

7.0 REFERENCES

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Figure 3.1-1 Locations sampled at SWMUs 15-004(b) and 15-004(c) in FY 2023

Potrillo/Fence Canyons Aggregate Area

- Location sampled FY23
 - SWMU or AOC
 - SWMUs 15-004(b) and 15-004(c)
 - Existing structure
- Former structure
- Paved parking
- 2-ft contour interval
- 10-ft contour interval

State Plane Coordinate System New Mexico Central Zone, US Survey Feet National Geodetic Vertical Datum 1929

rachel.more-hla@em-la.doe.gov Document: map_23-0011-01a_15-004(b-c) 9/11/2023

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0	140			210	280		
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		Feet					



Figure 3.2-1 Locations sampled at SWMU 15-009(e) in FY 2023

Potrillo/Fence Canyons Aggregate Area

• Location sampled FY23

SWMU or AOC

SWMU 15-009(e)

Existing structure

2-ft contour interval

10-ft contour interval



N3B/T2S GIS: R. MORE-HLA rachel.more-hla@em-la.doe.gov Document: map_23-0011-03a_15-009(e) 9/12/2023

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75 25 50 Feet



Figure 4.1-1 Locations sampled at SWMU 36-003(b) in FY 2023

Potrillo/Fence Canyons Aggregate Area

Location sampled FY23

SWMU or AOC

SWMU 36-003(b)

Structure

— Paved road

2-ft contour interval

10-ft contour interval

State Plane Coordinate System New Mexico Central Zone, US Survey Feet North American Datum 1983 National Geodetic Vertical Datum 1929

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0 5 10 20 30 40 Feet



Potrillo and Fence Canyons Aggregate Area Progress Report

 Table 2.1-1

 Summary of Samples Completed and Remaining at Potrillo and Fence Canyons Aggregate Area

Technical Area	Sum of Phase II IWP Planned Samples	Sum of Retrieved Samples	Sum of Samples Unable to Complete	Sum of Additional Samples Collected	% Phase II IWP Complete	Samples Remaining
TA-15	340	26	0	0	8	314
TA-36	222	14	0	2	6	208
Total	562	40	0	2	7	522



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