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

EMLA-2020-1604-02-001 September 30, 2020

Mr. Kevin Pierard
Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Subject: Submittal of the Lower Water/Indio Canyons Aggregate Area Progress Report

Dear Mr. Pierard:

Enclosed please find two hard copies with electronic files of the "Lower Water/Indio Canyons Aggregate Area Progress Report." This progress report fulfills fiscal year (FY) 2020 Milestone #17 in Appendix B of the 2016 Compliance Order on Consent (Consent Order) under the Southern External Boundary Campaign. The specific milestone addressed by this deliverable is described as a progress report summarizing the fieldwork implementation and status of site investigations in the Lower Water/Indio Canyons Aggregate Area. Field investigations for the Lower Water/Indio Canyons Aggregate Area were impacted and postponed by the COVID-19 pandemic.

On March 31, 2020, the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) provided written notification to the New Mexico Environment Department (NMED) of a force majeure event caused by the COVID-19 pandemic. The written notification was provided pursuant to the requirement in Section XXXII, Force Majeure, of the Consent Order, which states "A Force Majeure shall mean any event arising from causes beyond the control of DOE or its respective agents, contractors, or employees that causes a delay in or prevents the performance of any obligation of DOE under this Consent Order."

As a prudent measure in response to the COVID-19 pandemic in New Mexico, EM-LA transitioned to Essential Mission Critical Activities (EMCA) status on March 24, 2020. Activities supporting the cleanup mission were limited to those necessary to ensure the safety of the public, the workers, and the environment. As indicated in the written notification, investigation work under the Southern External Boundary Campaign, which includes Chaquehui Canyon Aggregate Area, South Ancho Canyon Aggregate Area, and Lower Water/Indio Canyons Aggregate Area, was not considered EMCA, and work ceased on March 24, 2020.

The Lower Water/Indio Canyons Aggregate Area investigations were on schedule to begin in May 2020 but were delayed by the COVID-19 pandemic. Following completion of required COVID-19 training and restart checklist completion and approvals, sampling at South Ancho Canyon Aggregate Area resumed on July 8, 2020. The COVID-19 pandemic reduced available field days left in FY 2020; therefore, the remaining sampling activities for South Ancho were postponed so that resources could be focused on completing the site investigation planned under the Lower Water/Indio Canyons Aggregate Area

Investigation Work Plan in August. Site surveys and utility locates for Lower Water/Indio Canyons began on August 3, 2020, and sample collection commenced on August 10, 2020.

Although initial sampling has been completed, the impacts from the COVID-19 pandemic on the Lower Water/Indio Canyons Aggregate Area field investigations have delayed completion of additional fieldwork planned for this single-phase investigation. Carrying fieldwork into FY 2021 has impacted the proposed date for submittal of the FY 2021 investigation report to NMED, moving that date to September 30, 2021. This new date is currently reflected in the proposed FY 2021 Appendix B Consent Order milestones.

If you have any questions, please contact Dwight Hollon at (505) 551-2939 (dwight.hollon@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

Arturo Duran

Digitally signed by Arturo Duran
Date: 2020.09.29 15:11:37 -06'00'

Arturo Q. Duran
Compliance and Permitting Manager
Environmental Management
Los Alamos Field Office

Enclosures:

1. Two hard copies with electronic files – Lower Water/Indio Canyons Aggregate Area Progress Report (EM2020-0423)

CC (letter and enclosure[s] emailed):
Laurie King, EPA Region 6, Dallas, TX
Chris Catechis, NMED-DOE-OB
Steve Yanicak, NMED-DOE-OB
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Pamela T. Maestas

From: Martinez, Cynthia, NMENV <cynthia.martinez1@state.nm.us>
Sent: Wednesday, September 30, 2020 8:07 AM
To: Pamela T. Maestas
Subject: RE: Submittal to NMED on 9/30/2020 of Lower Water/Indio Canyons Agg Area Progress Rpt

Received….
Thank you

From: Pamela T. Maestas <pamela.maestas@em-la.doe.gov>
Sent: Wednesday, September 30, 2020 8:02 AM
To: Pierard, Kevin, NMENV <Kevin.Pierard@state.nm.us>
Cc: Dhawan, Neelam, NMENV <neelam.dhawan@state.nm.us>; Emily M. Day <Emily.Day@em-la.doe.gov>; Regulatory Documentation <RegDocs@EM-LA.DOE.GOV>; Martinez, Cynthia, NMENV <cynthia.martinez1@state.nm.us>; cheryl.rodriguez@em.doe.gov; Dwight M. Hollon <Dwight.Hollon@EM-LA.DOE.GOV>; Brenda Bowlby <Brenda.Bowlby@em-la.doe.gov>; Michael O. Erickson <michael.erickson@em-la.doe.gov>
Subject: [EXT] Submittal to NMED on 9/30/2020 of Lower Water/Indio Canyons Agg Area Progress Rpt

Mr. Pierard,
Attached for submittal is a pdf file of the following:

- Submittal of the Lower Water/Indio Canyons Aggregate Area Progress Report (EMLA-2020-1604-02-001, letter and enclosure)

Please acknowledge receipt of this submittal by responding to this email.
Let me know if you have any questions.
Thank you.

Pamela T. Maestas
Regulatory Documentation Manager
Newport News Nuclear BWXT-Los Alamos, LLC
c. 505-927-7882
regdocs@em-la.doe.gov

1200 Trinity Drive, Suite 150
Los Alamos, NM 87544

September 2020
EM2020-0423

Lower Water/Indio Canyons Aggregate Area Progress Report

N3B Los Alamos

EM2020-0243

Lower Water/Indio Canyons Aggregate Area Progress Report

September 2020

Responsible program director:

Michael O. Erickson		Program Director	RCRA Remediation Program	9/22/20
Printed Name	Signature	Title	Organization	Date

Responsible N3B representative:

Kim Lebak		Program Manager	N3B Environmental Remediation Program	9/22/20
Printed Name	Signature	Title	Organization	Date

Responsible DOE EM-LA representative:

Arturo Q. Duran	Arturo Duran Digitally signed by Arturo Duran Date: 2020.09.29 15:12:12 -06'00'	Compliance and Permitting Manager	Office of Quality and Regulatory Compliance	
Printed Name	Signature	Title	Organization	Date

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Figure

1.0 PURPOSE OF REPORT

This progress report fulfills fiscal year (FY) 2020 Milestone #17 of the 2016 Compliance Order on Consent (Consent Order), Appendix B, under the Southern External Boundary Campaign. The specific milestone addressed by this deliverable is described as a progress report summarizing the status of fieldwork implementation site investigations in the Lower Water/Indio Canyons Aggregate Area. The Lower Water/Indio Canyons Aggregate Area is one of five aggregate areas in the Southern External Boundary campaign. The solid waste management units (SWMUs) and areas of concern (AOCs) in Lower Water/Indio Canyons Aggregate Area are listed below:

- AOC 15-001, Surface Disposal Site
- AOC 15-004(h), Firing Site H
- SWMU 15-009(g), Septic System
- AOC C-15-011, Former Underground Tank
- AOC 15-014(d), Drainage
- SWMU 15-014(l), Outfalls from Former Building 15-202

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) for the Lower Water/Indio Canyons Aggregate Area. The 2020 COVID-19 pandemic prompted a sitewide shutdown that caused all fieldwork operations to cease on March 24, 2020. Because of the shutdown, collection of samples initially planned under the investigation work plan (IWP) for the Lower Water/Indio Canyons Aggregate Area could not begin in May 2020 as scheduled. The start date for fieldwork was delayed until the New Mexico Department of Health provided guidance for the restart of operations throughout the state and EM-LA and N3B developed a phased approach to restarting field operations.

The Lower Water/Indio Canyons Aggregate Area investigations were on schedule to begin in May 2020 but were delayed by the COVID-19 pandemic. Following completion of required COVID-19 training and restart checklist completion and approvals, sampling at South Ancho Canyon Aggregate Area resumed on July 8, 2020. The COVID-19 pandemic significantly reduced available field days left in FY 2020; therefore, the remaining sampling activities for South Ancho were postponed so that resources could be focused on completing the site investigation planned under the Lower Water/Indio Canyons Aggregate Area IWP in August. Site surveys and utility locates for Lower Water/Indio Canyons began on August 3, 2020, sample collection commenced on August 10, 2020, and was completed by September 30, 2020.

Although initial sampling has been completed for the Lower Water/Indio Canyons Aggregate Area field investigations, impacts from the COVID-19 pandemic have delayed completion of additional fieldwork planned for this single-phase investigation. Carrying fieldwork into FY 2021 has impacted the target date for submittal of the FY 2021 investigation report to NMED, moving that date to September 30, 2021. This new date is currently reflected in the proposed FY 2021 Appendix B Consent Order milestones.

This progress report presents fieldwork implementation and the status of site investigations for the Lower Water/Indio Canyons Aggregate Area and the impacts to the field effort from the COVID-19 pandemic.

2.1 COVID-19 Impacts

A worldwide pandemic caused by the spread of the COVID-19 virus adversely affected field operations. As a prudent measure in response to the COVID-19 pandemic in New Mexico, EM-LA transitioned to Essential Mission Critical Activities (EMCA) status on March 24, 2020. Activities supporting the cleanup mission were limited to those necessary to ensure the safety of the public, the workers, and the environment. As indicated in the written notification (DOE 2020, 700826), investigation work under the Southern External Boundary Campaign, which includes the Lower Water/Indio Canyons Aggregate Area, was not considered EMCA, and work ceased on March 24, 2020. Subsequently, DOE has provided biweekly updates in accordance with the March 31, 2020, notification.

Fieldwork at Lower Water/Indio Canyons Aggregate Area was delayed by approximately 3 months from May to August 2020 by the COVID-19 pandemic impacts. Safety protocols mandated by the Governor of New Mexico, such as social distancing and masks, reduced field efficiency due to reconfiguring field teams, limiting vehicle transport to two people per vehicle, and providing more frequent breaks to mitigate potential heat stress from wearing masks. In addition, COVID-19 health and safety protocols have impacted field team member availability, as personnel are required to self-isolate if others they are in contact with exhibit COVID-19 symptoms and until test results are received or 14 days have passed. This has reduced available field personnel and further reduced field efficiency. Before the COVID-19 pandemic, sample collection averaged 14–16 samples per day, whereas it has averaged 8–10 samples per day during fieldwork resumption. This equates to approximately a 40% loss in field efficiency because of COVID-19 health and safety restrictions.

3.0 SUMMARY OF FIELDWORK COMPLETED IN FISCAL YEAR 2020

The following sections summarize the status of fieldwork completed at AOC 15-001, AOC 15-004(h), SWMU 15-009(g), AOC C-15-011, AOC 15-014(d), and SWMU 15-014(l).

3.1 AOC 15-001, Surface Disposal Site

3.1.1 Site Description and Operational History

AOC 15-001 consists of a storage area referred to as “The Boneyard” that is located within Technical Area 15 (TA-15) adjacent to inactive Firing Site G [SWMU 15-004(g)] (Figure 3.0-1). AOC 15-001 is located just northeast of a former firing bunker (structure 15-9). The area was used to store materials associated with activities at the Dual-Axis Radiographic Hydrodynamic Test (DARHT) and Pulsed High-Energy Radiographic Machine Emitting X-rays (PHERMEX) facilities. These materials, which included equipment, steel, experimental vessels, and construction debris, were stored in the open, on the ground surface, and within transport containers and small storage sheds. Materials stored at AOC 15-001 before the mid-1990s have been removed, but small pieces of debris (e.g., metal scrap) may still be present. The area is currently being used to store equipment associated with ongoing activities at TA-15 (LANL 2016, 601538).

3.1.2 Previous Investigations

Although previous investigations have not specifically addressed AOC 15-001, they have addressed the general area that could have been impacted by Firing Site G [SWMU 15-004(g)], including the area occupied by AOC 15-001. A 1982 aerial radiological survey identified no radionuclides above background levels at Firing Site G or adjacent areas. However, during surface surveys performed at the site in 1991 and 1996, several areas of radiological surface contamination were identified. This contamination is

believed to be associated with uranium debris from tests conducted at Firing Site G. Although investigation of AOC 15-001 was proposed in the Operable Unit (OU) 1086 Resource Conservation and Recovery Act facility investigation (RFI) work plan (LANL 1993, 020946), investigation was deferred during the 1995–1996 RFI because it was an active site (LANL 1996, 054977, p. 5-1). However, three surface samples were collected at three locations within and adjacent to AOC 15-001 from depth intervals of 0–0.25 ft, 0–0.33 ft, and 0–0.5 ft below ground surface (bgs). The samples were submitted to an off-site contract analytical laboratory for analysis of uranium (LANL 2016, 601539).

3.1.3 Investigation Objectives

The objective of the investigation is to define the nature and extent of contamination associated with AOC 15-001 (Storage Area) and ensure that no unacceptable human health or ecological risk exists at this site. A total of 42 samples are planned to be collected from 3 depths (0–1 ft, 2–3 ft, and 4-5 ft bgs) at 14 locations.

3.1.4 Fieldwork Completed

Fieldwork at AOC 15-001 took place September 14–17, 2020. A total of 42 samples were collected from 3 depths (0–1 ft, 2–3 ft, and 4–5 ft bgs) at 14 locations. Samples are being analyzed for target analyte list (TAL) metals, nitrate, perchlorate, pH, semivolatile organic compounds (SVOCs), explosive compounds, and isotopic uranium. Figure 3.0-1 shows the sample locations at AOC 15-001.

3.2 AOC 15-004(h), Firing Site H

3.2.1 Site Description and Operational History

AOC 15-004(h) is inactive Firing Site H, located northwest of the PHERMEX facility at TA-15 (Figure 3.0-1). Firing Site H is located approximately 100 ft north of the PHERMEX power control building (structure 15-185). The explosives testing firing site was constructed in 1948 and included a concrete pad, a protective berm, an instrument chamber (former structure 15-17), and a camera chamber (structure 15-92). The exact nature of the materials used during tests is not known but may have included depleted uranium, beryllium, lead, and high explosives (HE). Firing site operations were discontinued in approximately 1953 (LANL 1993, 020946, pp. 8–23), and the instrument chamber was demolished in 1967. The camera chamber and the concrete pad remain, but the concrete pad has been partially covered with fill.

3.2.2 Previous Investigations

The OU 1086 RFI work plan (LANL 1993, 020946) proposed an investigation of AOC 15-004(h), but the investigation was deferred during the 1995–1996 RFI because it was within the active PHERMEX hazard area (LANL 1996, 054977, p. 5-1; LANL 2016, 601538). However, 11 surface samples (0.0–0.17 ft bgs to 0.0–0.5 ft bgs) and 7 subsurface samples (1.08–1.58 ft or 1.5–2.0 ft bgs) were collected from 11 locations (LANL 2016, 601538). The samples were submitted to an off-site analytical laboratory for analysis of uranium (LANL 2016, 601539).

3.2.3 Investigation Objectives

The objective of the investigation is to define the nature and extent of contamination associated with AOC 15-004(h) and ensure that no unacceptable human health or ecological risk exists at this site. A total of 64 samples are planned to be collected from 22 locations (Figure 3.0-1). Samples are planned to be

collected from 3 depth intervals (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft bgs) at 20 locations near the firing site and at 2 locations in the fill covering the concrete pad (LANL 2016, 601538).

3.2.4 Fieldwork Completed

Fieldwork at AOC 15-004(h) took place August 28–September 8, 2020. A total of 64 samples were collected at three depths (0–1 ft, 2–3 ft, and 4–5 ft bgs) at 20 locations. A total of 4 samples were collected from 2 sites at 0–1 ft and 2–3 ft bgs in the fill covering the concrete pad. Samples are being analyzed for TAL metals, nitrate, perchlorate, pH, SVOCs, explosive compounds, and isotopic uranium. Figure 3.0-1 shows the sample locations at AOC 15-004(h).

3.3 SWMU 15-009(g), Septic System

3.3.1 Site Description and Operational History

SWMU 15-009(g) consists of an inactive septic system at the PHERMEX facility that is located south of the chamber building (structure 15-184) (Figure 3.0-1). The septic system includes a septic tank (structure 15-205), leach field, and inlet and outlet drainlines. The 4 ft × 8 ft × 5 ft reinforced concrete septic tank was installed in 1960 and has a capacity of 795 gal. The septic tank discharged to a 10 ft × 75 ft leach field (LASL 1959, 601541). The septic system received sanitary wastes from restrooms, sinks, and a water fountain within the power control building (structure 15-185); and from floor drains, a restroom, and a hot water heater within the detection chamber (structure 15-186) (Santa Fe Engineering Ltd. 1992, 020981). Beginning in 1987, the septic system began receiving discharges from restrooms within the PHERMEX Multidiagnostic Operations Building (structure 15-310). Engineering drawing C-49874, sheet 5, indicates that in 1996, the noncontact cooling water discharge from building 15-184 was plumbed into the sanitary line connected to the SWMU 15-009(g) septic system (LANL 1996, 601540). All facilities connected to the septic system are now inactive, and there is currently no discharge to the system.

3.3.2 Previous Investigations

No previous investigations have been conducted at SWMU 15-009(g) (LANL 2016, 601538).

3.3.3 Investigation Objectives

The objective of the investigation and remedial action is to (1) determine the nature and extent of contamination and characterize the site and (2) ensure the health and safety of field personnel and the public by not releasing potentially HE-contaminated material from the site.

The nature and extent of contamination have not been defined at this site. If the septic tank is determined to be free of HE and thus can be released, the tank and its contents will be removed and disposed of at an appropriate waste facility in accordance with the investigation work plan (IWP) (LANL 2016, 601538). Otherwise, the tank contents will be removed and the tank will be closed by plugging the inlet and outlet and filling the tank with concrete or flowable fill. Site characterization will be performed following tank removal or closure. Sampling locations will be targeted at the septic tank, beneath inlet and outlet drainlines, and within and around the leach field to define the nature and extent of contamination. A total of 24 samples will be collected from 8 locations adjacent to the inlet drainlines, including locations where drainlines from buildings join. Samples are planned to be collected from 3 depths (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft below the drainline) at each location. A total of 6 samples are planned to be collected at depths of 0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft beneath the inlet and outlet. A total of 3 samples are

planned to be collected from 1 location below the tank if the tank is removed or adjacent to the tank if it is left in place. Samples are planned to be collected from 3 depths (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft) below the base of the tank. A total of 9 samples are planned to be collected from 3 locations beneath the leach field. Exploratory trenches will be excavated across the leach field, or the less intrusive method of potholing will be used to locate the drainpipes and determine their depths. Samples are planned to be collected at 3 depths (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft) below the base of the leach field drainlines. In addition, 21 samples are planned to be collected from 7 locations around the leach field boundary (LANL 2016, 601538).

3.3.4 Fieldwork Completed

Fieldwork took place August 10–31, 2020. A total of 63 samples were collected from 21 locations at 3 depth intervals (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft beneath the septic tank base, leach field, drainlines, and the septic tank inlet and outlets). Samples are being analyzed for TAL metals, cyanide, nitrate, perchlorate, pH, volatile organic compounds (VOCs), explosive compounds, gamma-emitting radionuclides, and isotopic uranium. Figure 3.0-1 shows the sample locations at SWMU 15-009(g).

N3B recognized the risk of potential release of HE-contaminated material from the septic tank to the public domain. Because of the nature of HE, there is too much uncertainty in assuming that the septic tank has been totally characterized as clean of any contamination. The free release of potentially contaminated HE material is a risk to human health and the environment, as well as to the health and safety of workers during removal. Tank samples can certify only that a sample is free and clear of HE, not the whole contents of the tank; the possibility still exists for HE to be present within the septic tank.

The in-situ remediation described in the IWP (LANL 2016, 601538) was determined to be the best means of reducing risk to human health and safety and the environment, by cementing the tank in place. The septic tank was filled using flowable concrete on September 23, 2020.

The tank was found to contain approximately 795 gal. of water and sludge. The water and sludge were sampled and pumped out into polyethylene containers and then transported to the TA-16 staging area for final waste disposition.

During confirmation of the location and depth of the leach field drainline, a discrepancy for the center line was discovered between the mapped location and the actual location. The field team did not find the center line. While recent information notes the line, a review of the original engineering drawings for the septic tank showed only two lines and no center drainline (LASL 1959, 601541).

3.4 AOC C-15-011, Former Underground Tank

3.4.1 Site Description and Operational History

AOC C-15-011 consists of a former underground fuel storage tank (structure 15-274) that was located at the PHERMEX facility in the southeast portion of TA-15. The galvanized steel storage tank was installed in 1973 and was located immediately south of the power control building (structure 15-185). The storage tank had a capacity of 218 gal., and the bottom of the tank was reported to be at 6 ft bgs. The tank was removed in 1987 (LANL 1993, 020946, p. 8-26). The surface of the former tank location is now an asphalt parking lot.

3.4.2 Previous Investigations

Two subsurface samples were collected from one borehole at depth intervals of 6 ft and 10 ft bgs next to the former AOC C-15-011 tank location during the 1995–1996 RFI. The samples were field screened for radioactivity and submitted for analysis of VOCs and SVOCs (LANL 2016, 601538).

3.4.3 Investigation Objectives

The objective of the investigation is to define the nature and extent of contamination associated with AOC C-15-011 and ensure that no unacceptable human health or ecological risk exists at this site. A total of 6 samples are planned to be collected from two locations (Figure 3.0-1). Of these, three samples are planned to be collected as close as possible to the previous locations of the RFI samples, and three samples are planned to be collected approximately 10 ft downgradient of these locations. The bottom of the former tank was reported to be 6 ft bgs; therefore, samples are planned to be collected at three depth intervals (6.0–7.0 ft, 9.0–10.0 ft, and 14.0–15.0 ft bgs) at each location.

3.4.4 Fieldwork Completed

Fieldwork at AOC C-15-011 took place September 10–11, 2020. A total of six samples were collected at three depths (6.0–7.0 ft, 9.0–10.0 ft, and 14.0–15.0 ft bgs) at two locations. Samples are being analyzed for TAL metals, pH, VOCs, SVOCs, and total petroleum hydrocarbons gasoline range organics. Figure 3.0-1 shows the sample locations at AOC C-15-011.

3.5 AOC 15-014(d), Drainage

3.5.1 Site Description and Operational History

AOC 15-014(d) consists of a corrugated metal pipe drainline and outfall located south of the PHERMEX facility in the southeast portion of TA-15 (Figure 3.0-1). The outfall received storm water from roof drains on the power control building (structure 15-185) and discharge from the SWMU 15-014(l) outfall. SWMU 15-014(l) received wash water from floor drains in building 15-185 and cooling tower blowdown from structure 15-202 (Santa Fe Engineering Ltd. 1992, 020981). Engineering drawing ENG-C-37323 (LASL 1969, 601543) indicates that AOC 15-014(d) is a drainline installed in approximately 1969. It is connected to the SWMU 15-014(l) outfall and the building 15-185 roof drains. Before that time, the roof drain and floor drains from building 15-185 discharged to the paved area behind the building and flowed to a drainage channel adjacent to the roadway south of PHERMEX. The AOC 15-014(d) outfall is located at the head of a drainage channel that flows to Water Canyon. The outfall still receives storm water from the roof drains on building 15-185 as well as any storm water entering the SWMU 15-014(l) drop inlet.

3.5.2 Previous Investigations

No previous investigations have been performed at AOC 15-014(d) (LANL 2016, 601538).

3.5.3 Investigation Objectives

The objective of the investigation is to define the nature and extent of contamination associated with AOC 15-014(d) and ensure that no unacceptable human health or ecological risk exists at this site. A total of 21 samples are planned to be collected from 7 locations. Samples are planned to be collected at the AOC 15-014(d) outfall and approximately every 100 ft within the drainage. Sampling will cease when the

drainage becomes too steep to safely collect samples. Samples are planned to be collected from three depth intervals (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft bgs) at each location.

3.5.4 Fieldwork Completed

Fieldwork at AOC 15-014(d) took place September 8–11, 2020. A total of 21 samples were collected from 3 depths (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft bgs) at 7 locations. Samples are being analyzed for TAL metals, nitrate, perchlorate, pH, explosive compounds, gamma-emitting radionuclides, isotopic uranium, and hexavalent chromium. Figure 3.0-1 shows the sample locations at AOC 15-014(d).

3.6 SWMU 15-014(l), Outfalls from Former Building 15-202

3.6.1 Site Description and Operational History

SWMU 15-014(l) is a drainline and formerly permitted outfall (EPA 03A028) for a cooling tower (structure 15-202) located at the PHERMEX facility in TA-15 (Figure 3.0-1). This drainline and outfall received blowdown discharge from the cooling tower, which was installed in 1961. Cooling water was piped to building 15-185, and blowdown was discharged to a basement floor drain, which in turn discharged to a concrete gutter in the paved area south of building 15-185 (LASL 1961, 601542). Discharge from the gutter flowed to a drainage ditch adjacent to the roadway and into a culvert that drained to the ground surface south of the roadway. This culvert also received discharge from the floor drains in building 15-184. In 1969, a corrugated metal pipe was installed to convey discharge from the SWMU 15-014(l) outfall to a new outfall south of the parking area and roadway (LASL 1969, 601543). This drainline and the outfall installed in 1969 are designated AOC 15-014(d). The SWMU 15-014(l) outfall is currently located within a drop inlet in a paved area outside the southeast corner of building 15-185. Outfall 03A028 was removed from the Laboratory's National Pollutant Discharge Elimination System permit in 2007. The outfall currently receives only storm water discharge from the paved area around the drop inlet.

3.6.2 Previous Investigations

No previous investigations have been conducted at SWMU 15-014(l) (LANL 2016, 601538).

3.6.3 Investigation Objectives

The objective of the investigation is to define the nature and extent of contamination associated with SWMU 15-014(l) and ensure that no unacceptable human health or ecological risk exists at this site. A total of 15 samples are planned to be collected from five locations. Samples are planned to be collected along the drainlines feeding into and out of the drop inlet and at one location along the drainline between the SWMU 15-014(l) outfall and the AOC 15-014(d) outfall. Samples are planned to be collected at 3 depth intervals (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft below the drainlines at each location. Samples are planned to be collected at 2 locations in the drainage ditch that formerly received discharge from the paved area south of building 15-185, upgradient of where the drainage ditch joins the culvert that formerly received discharge from building 15-184. At these locations, samples are planned to be collected at 3 depth intervals (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft bgs) at each location (LANL 2016, 601538).

3.6.4 Fieldwork Completed

Fieldwork at SWMU 15-014(l) took place September 10–11, 2020. A total of 15 samples were collected at 3 depths (0.0–1.0 ft, 2.0–3.0 ft, and 5.0–6.0 ft bgs) at 5 locations. Samples are being analyzed for TAL

metals, nitrate, perchlorate, pH, explosive compounds, gamma-emitting radionuclides, isotopic uranium, polychlorinated biphenyls, and hexavalent chromium.

4.0 FY 2020 MILESTONE

The requirement of a progress report summarizing the fieldwork implementation and status of site investigations in the Lower Water/Indio Canyons Aggregate Area has been met by completion and submittal of this progress report. All initial sampling per the IWP has been completed. Approximately 3 yd^3 of soil and debris have been excavated. Additional sampling and any further remediation will occur once analytical data have been received and evaluated.

5.0 FY 2021 PLANNED ACTIVITIES

The impacts from the COVID-19 pandemic on the Lower Water/Indio Canyons Aggregate Area field investigations have delayed field start from May to August, and subsequently delayed completion of the additional fieldwork under this single-phase investigation. After the initial sampling results have been reviewed and risk screening performed, additional sampling and remediation operations will continue through FY 2021. Carrying fieldwork into FY 2021 has impacted the proposed date for submittal of the FY 2021 investigation report to NMED, moving that date to September 30, 2021. This new date is currently reflected in the proposed FY 2021 Appendix B Consent Order milestones.

6.0 REFERENCES

The following reference list includes documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ERID, ESHID, or EMID. This information is also included in text citations. ERIDs were assigned by the Laboratory's Associate Directorate for Environmental Management (IDs through 599999); ESHIDs were assigned by the Laboratory's Associate Directorate for Environment, Safety, and Health (IDs 600000 through 699999); and EMIDs are assigned by N3B (IDs 700000 and above). IDs are used to locate documents in N3B's Records Management System and in the Master Reference Set. The NMED Hazardous Waste Bureau and N3B maintain copies of the Master Reference Set. The set ensures that NMED has the references to review documents. The set is updated when new references are cited in documents.

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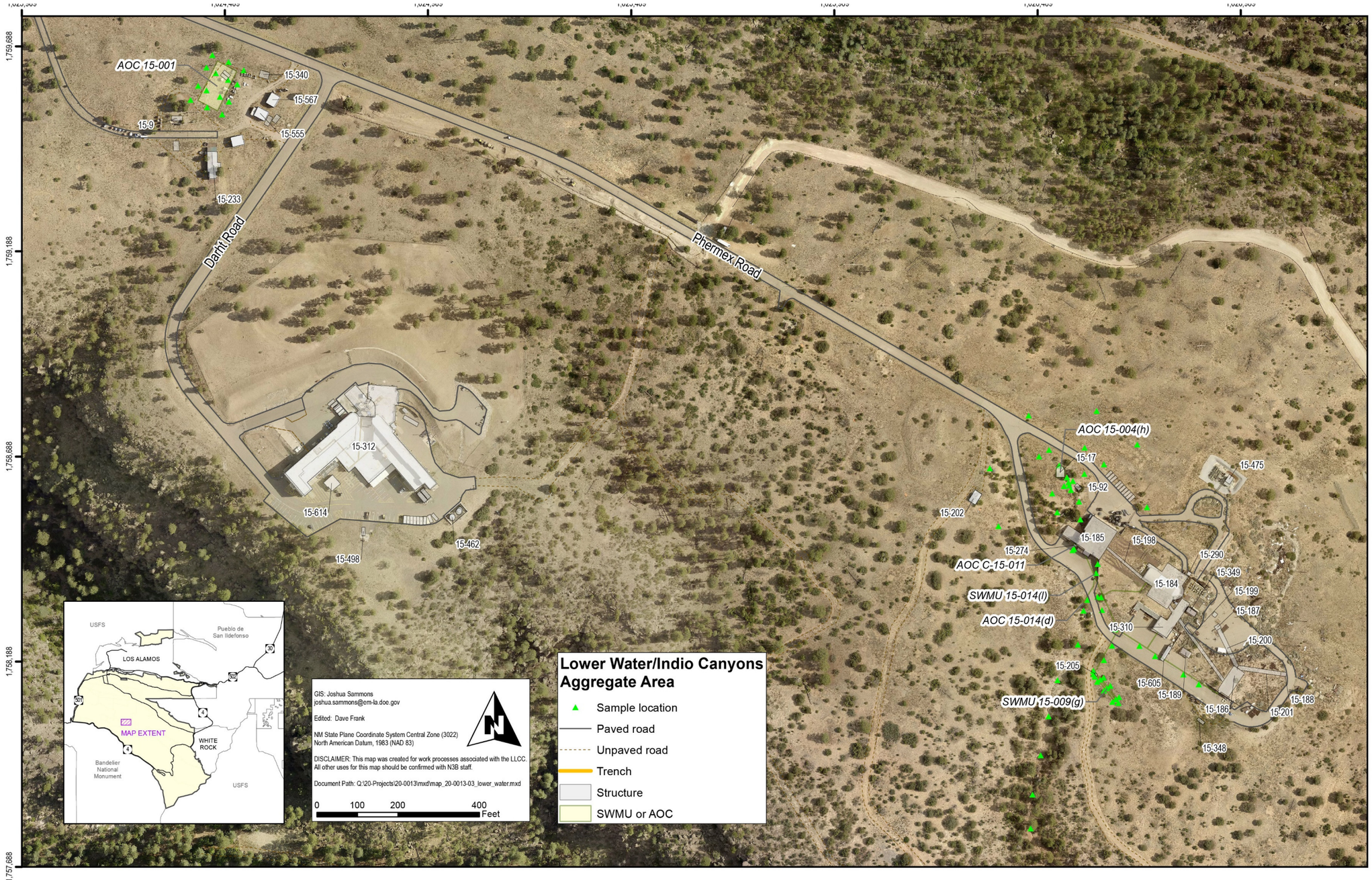

Figure 3.0-1 Lower Water/Indio Canyons Aggregate Area site and sample locations