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*Date*: April 24, 2023
*Refer To*: N3B-2023-0151

Dale Thrush,
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

**Subject: Submittal of Toxic Substances Control Act Self-Implementation Checklist for Nature and Extent Determination and Cleanup of Polychlorinated Biphenyl Remediation Waste, North Ancho Canyon Aggregate Area - SWMU 39-002(a), Area 2**

Dear Mr. Thrush:

The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) have prepared the enclosed documentation as notification of intent to conduct a Self-Implementing On-Site Cleanup of Polychlorinated Biphenyl (PCB) remediation waste at solid waste management unit (SWMU) 39-002(a) in accordance with 40 Code of Federal Regulations (CFR) 761.61(a). The enclosed documentation has been prepared in accordance with the Toxic Substances Control Act Self-Implementing PCB Cleanups Checklist - 61(a).

SWMU 39-002(a) is within the North Ancho Canyon Aggregate Area of Los Alamos National Laboratory and, as such, is subject to investigation under the 2016 Compliance Order on Consent (Consent Order). The investigation of this aggregate area is underway in accordance with the "Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area," Revision 1. Work completed to date has resulted in the identification of PCBs in shallow soils (0–5 feet in depth) at SWMU 39-002(a).

The PCB cleanup work described in the attached checklist and supporting documentation will be conducted in accordance with Consent Order requirements for determining nature and extent of contamination and evaluating potential human-health and ecological risk. Additionally, PCB cleanup levels will at a minimum meet cleanup levels defined by 40 CFR 761.61(a)(4)(i)(B) for bulk PCB remediation waste in low occupancy areas. SWMU 39-002(a) is and will remain in perpetuity under the ownership and control of DOE for non-residential, non-recreational activities.

If you have any 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,

Robert Macfarlane
Program Manager
Environment, Safety, Health and Quality
N3B-Los Alamos

Sincerely,

M Lee Bishop

Digitally signed by M Lee Bishop
Date: 2023.04.24 10:15:22 -06'00'

M. Lee Bishop, Director
Office of Quality and Regulatory Compliance
U.S. Department of Energy
Environmental Management
Los Alamos Field Office

Enclosure(s): One hard copies with electronic files:

1. Toxic Substances Control Act Self-Implementation Checklist for Nature and Extent Determination and Cleanup of Polychlorinated Biphenyl Remediation Waste, North Ancho Canyon Aggregate Area - SWMU 39-002(a), Area 2 (EM2023-0323)

cc (letter and enclosure[s] emailed):
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April 2023
EM2023-0323

# Toxic Substances Control Act Self-Implementation Checklist for Nature and Extent Determination and Cleanup of Polychlorinated Biphenyl Remediation Waste, North Ancho Canyon Aggregate Area - SWMU 39-002(a), Area 2

N3B Los Alamos

EM2023-0323

# Toxic Substances Control Act Self-Implementation Checklist for Nature and Extent Determination and Cleanup of Polychlorinated Biphenyl Remediation Waste, North Ancho Canyon Aggregate Area-SWMU 39-002(a), Area 2

April 2023

Responsible program director:

| Robert Macfarlane |  | Program Manager | Environmental, Safety, Health, and Quality | 4/20/2023 |
|---|---|---|---|---|
| Printed Name | Signature | Title | Organization | Date |

Responsible DOE EM-LA representative:

| M. Lee Bishop | M Lee Bishop Digitally signed by M Lee Bishop Date: 2023.04.24 10:15:38 -06'00' | Director | Office of Quality and Regulatory Compliance | 4/24/23 |
|---|---|---|---|---|
| Printed Name | Signature | Title | Organization | Date |

All sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at Newport News Nuclear BWXT Los Alamos, and are available for EPA inspection. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

**CONTENTS**

## Figures



## Tables

## 1.0 INTRODUCTION

Los Alamos National Laboratory (LANL or the Laboratory) is a multidisciplinary research facility owned by the U.S. Department of Energy (DOE). The Laboratory is located in north-central New Mexico, approximately 60 mi northeast of Albuquerque and 20 mi northwest of Santa Fe. The Laboratory site covers approximately 36 $mi^2$ of the Pajarito Plateau, which consists of a series of fingerlike mesas separated by deep canyons that contain perennial and intermittent streams running from west to east. Mesa tops range in elevation from approximately 6200 ft to 7800 ft above mean sea level.

The Laboratory has been a participant in a national effort by DOE to clean up sites and facilities formerly involved in weapons research and development. The goal of this effort is to ensure past operations do not threaten human or environmental health and safety in and around Los Alamos County, New Mexico. To achieve this goal, the Laboratory has investigated sites potentially contaminated by past Laboratory operations. These sites are designated as either solid waste management units (SWMUs) or areas of concern (AOCs). Corrective actions at the Laboratory are subject to a Compliance Order on Consent (the Consent Order). The Consent Order was issued pursuant to the New Mexico Hazardous Waste Act, New Mexico Statutes Annotated (NMSA) 1978 Section 74-4-10, and the New Mexico Solid Waste Act, NMSA 1978, Section 74 9 36(D). NMED, pursuant to the New Mexico Hazardous Waste Act, regulates cleanup of hazardous wastes and hazardous constituents.

This document has been prepared by the DOE Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear-BWXT Los Alamos, LLC (N3B) to notify the U.S. Environmental Protection Agency (EPA) of the intent to conduct a self-implementing polychlorinated biphenyl (PCB) cleanup in accordance with 40 CFR 761.61(a). This cleanup is planned for SWMU 39-002(a), Area 2, located in the North Ancho Canyon Aggregate Area at the Laboratory in Los Alamos, New Mexico. The North Ancho Canyon Aggregate Area is located at Technical Area 39 (TA-39) of the Laboratory and the location of North Ancho Canyon Aggregate Area with respect to the Laboratory TAs and surrounding land holdings is shown on Figure 13.0-1.

This document has been prepared in accordance with EPA's Toxic Substances Control Act Checklist for Self Implementation Actions.

## 2.0 SITE BACKGROUND AND HISTORY

SWMU 39-002(a) consists of three former storage areas that were associated with former building 39-2 (Figure 13.0-2).

Area 1 is a former unpaved, outdoor storage area and satellite accumulation area (SAA) next to the northwest corner of former building 39-2 at TA-39. The site measured approximately 25 ft × 30 ft and was used for storage for approximately ten years before being registered as an SAA. Small quantities of solvents (acetone and ethanol) and adhesives, along with rags and paper wipes contaminated with solvents or adhesives, were stored at the site. The area was also used to store lead-containing materials and damaged capacitors and transformers that may have contained PCBs. According to the Laboratory's Resource Conservation and Recovery Act (RCRA) storage area database dated July 2017, this SAA was removed from service in April 1993. Building 39-2 has been removed and all of Area 1 is covered in base course.

Area 2 is a former indoor SAA that was located in room 18-A of former building 39-2. The SAA was used for storing waste chemicals in 5-gal containers. According to the Laboratory's RCRA storage area

database, the Area 2 SAA was removed in March 1993. No known or documented releases are associated with this SAA. As the site was located inside a building, there was no known potential for environmental releases.

Area 3 is a former outdoor SAA and holding/receiving area that was located on the asphalt driveway at the north end of the loading dock on the southeast side of former building 39-2, and measured approximately 5 ft wide × 5 ft long. Used vacuum pump oil contaminated with solvents, ethanol, acetone, and trichloroethane were stored in the Area 3 SAA. According to the Laboratory's RCRA storage area database, the Area 3 SAA was removed in April 1993 and no known or documented releases are associated with this SAA. The storage area where the SAA was located has not been used since before 2007. The approved *"Investigation Report for North Ancho Canyon Aggregate Area, Revision 1"* (LANL 2010, 108500.11; NMED 2010, 108675) concluded that the nature and extent of contamination have been defined and no further sampling for extent is warranted at SWMU 39-002(a), Area 3.

PCBs were identified at SWMU 39-002(a), Area 2 during the implementation of the 2016 Compliance Order on Consent (Consent Order) investigation currently underway at North Ancho Canyon Aggregate Area. This investigation is being implemented in accordance with the Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area, Revision 1, (LANL 2011, 201561).

Through site investigation activities conducted to date, it has been determined that PCB contamination at SWMU 39-002(a), Area 2 is limited to shallow soils, 0 to 5 ft in depth. The site conditions for SWMU 39-002(a), Area 2 include:

- A semiarid climate with low precipitation and a high evapotranspiration rate that limits the extent of subsurface moisture percolation and, therefore, the amount of moisture available to transport contaminants in the subsurface; and
- A relatively dry, unsaturated (vadose) zone that greatly restricts or prevents downward migration of contaminants to the regional aquifer;

The migration of PCB contaminants from the identified area of contamination to other media is considered unlikely. No surface water is present in the vicinity of SWMU 39-002(a) and depth to groundwater is approximately 525 ft below ground surface (bgs).

The PCB cleanup work described herein will be conducted in accordance with Consent Order requirements for determining nature and extent of contamination and evaluating potential human-health and ecological risk. Additionally, PCB cleanup levels will at a minimum meet cleanup levels defined by 40 CFR 761.61(a)(4)(i)(B) for bulk PCB remediation waste in low occupancy areas. SWMU 39-002(a) is and will remain in perpetuity under the ownership and control of the DOE for non-residential, non-recreational activities.

## 3.0 NATURE OF CONTAMINATION

Initial characterization activities were conducted at SWMU 39-002(a), Area 2 during the 2019 Aggregate Area Known Cleanup Sites Campaign, and a total of 15 samples were collected from three depths (0 to 1 ft bgs, 2 to 3 ft bgs, and 4 to 5 ft bgs) at five locations. Samples were analyzed for target analyte list (TAL) metals, nitrate, perchlorate, cyanide, semi-volatile organic compounds, volatile organic compounds, pH, high explosives, PCBs, and isotopic uranium (N3B 2019, 700665). Preliminary risk assessment using the 2019 analytical data for SWMU 39-002(a), Area 2 indicated potentially unacceptable human health risk, under the residential and construction worker scenarios, from Aroclor-1254.

During the 2022 and 2023 investigation at SWMU 39-002(a), Area 2, additional sampling was conducted as part of the approved Phase II Investigation Work Plan (LANL 2011, 201561; NMED 2011, 203447). During this investigation, 105 surface and subsurface samples from 35 locations were collected from SWMU 39-002(a), Area 2. Twelve surface and subsurface samples were collected from four 5-ft step out locations from location 39-61659, and 99 surface and subsurface samples were collected from 33 10-ft step out locations from location 39-61659. Samples were collected from three depths (0 to 1 ft bgs, 2 to 3 ft bgs, and 4 to 5 ft bgs), and all were analyzed for TAL metals (copper only) and PCBs.

In February 2023, 51 additional samples were collected from 16 locations and depth intervals ranging from 0 to 1 ft bgs, 2 to 3 ft bgs, 4 to 5 ft bgs, 6 to 7 ft bgs, and 9 to 10 ft. bgs and analyzed for PCBs only to define the lateral and vertical extent of PCBs and to define excavation extent at areas surrounding location 39-61760.

Aroclor-1248 was detected in five samples at three locations. The highest concentration of 0.667 mg/kg was detected at location 39-61744 from the 4 to 5 ft. interval bgs. Aroclor-1254 was detected in 151 samples at 52 locations. The highest concentration of 95.4 mg/kg was detected at location 39-61760 from the 0 to 1 ft interval. Aroclor-1260 was detected in 79 samples at 33 locations. The highest concentration of 4.18 mg/kg was detected at location 39-61752 from the 0 to 1 ft. interval bgs. Based on the results from the additional sampling, the vertical and lateral extent of Aroclor-1248, Aroclor-1254, and Aroclor-1260 is defined.

Based on an analysis of all sample results for SWMU 39-002(a), Area 2 PCBs were detected at a concentration $\geq$50 mg/kg and therefore excavation is proposed at location 39-61760 and the excavation dimensions will be approximately 9 ft x 10.7 ft x 2 ft or seven cubic yards.

The results of PCB sampling and analysis are presented in the Table 14.0-1 and shown on Figure 13.0-4 and Figure 13.0-5.

## 4.0 PCB CLEANUP PLAN AND SCHEDULE

The goal for SWMU 39-002(a), Area 2 is to remove the PCB-contaminated soil from the area of sampling location 39-61760 using the lateral and vertical extent bounding samples, which define the extent of PCB contamination in and around the sampling location associated with this SWMU. In compliance with Consent Order investigations, industrial soil screening levels (SSLs) will be used to define nature and extent of PCB soil contamination. Use of industrial SSLs in this manner will meet PCB cleanup levels of $\leq$25 PPM as defined by 40 CFR 761.61(a)(4)(i)(B).

Preexcavation samples have been collected and analyzed for PCBs and have defined the lateral and vertical extent of PCB contamination. Preexcavation sampling locations were offset in 5 to 10-ft step-outs north, south, east, and west from the proposed remediation location to define lateral extent, per the approved Phase II Investigation Work Plan (LANL 2011, 201561; NMED 2011, 203447). Preexcavation samples were also collected at depth to define vertical extent. All samples were submitted for off-site laboratory analysis of PCBs. When a sample result determined analyte(s) were above the industrial SSL specified in the approved Phase II Investigation Work Plan, additional samples were collected at additional step-out locations or deeper depths, as appropriate in order to determine the bounding limits of the contamination. If a preexcavation sample result was less than the proposed cleanup level, the sample became a confirmation sample and defines the lateral or vertical extent of the proposed excavation.

A backhoe will be used to remove environmental media exceeding target cleanup levels, and the media will be managed as investigation derived waste (IDW) in compliance with the approved waste

characterization strategy forms and in compliance with 40 CFR 761.40. If required, additional confirmation samples will be collected. Following remediation, the excavated area will be backfilled with clean fill, compacted, and re-seeded.

Upon excavation, PCB-contaminated soil will be removed, packaged, characterized, and transported to an N3B-approved disposal facility. One composite waste sample will be collected per 50 cubic yards. All waste characterization samples will be submitted for analysis per the waste characterization strategy form (WCSF).

The PCB cleanup is planned to commence immediately upon approval of this PCB cleanup plan for SWMU 39-002(a), Area 2. The excavation activities are planned to be performed in April 2023. All cleanup activities and site restoration activities are planned to be completed by May 2023. The cleanup schedule is shown on Figure 13.0-7.

## 5.0 STANDARD OPERATING PROCEDURES AND FIELD INVESTIGATION METHODS

This section summarizes the field methods utilized during the 2019 through 2023 Phase II investigation at North Ancho Canyon Aggregate Area at the Laboratory. Table 14.0-3 summarizes the field investigation methods, and the following sections provide detailed descriptions of these methods. All activities were conducted with the approved standard operating procedures (SOP) listed in Table 14.0-4.

### 5.1 Field Screening Methods

This section summarizes the field-screening methods used during the investigation activities. All samples submitted for volatile organic compound (VOC) analysis were field screened using a photoionization detector (PID). All samples were additionally field screened for high explosives (HE) using EXPRAY explosive detection identification field test kits (i.e., HE spot test). Results were recorded on each sample collection log (SCL)/chain of custody (COC) form. Samples from SWMU 39-002(a) Area 2, investigated during the 2022–2023 investigation, were not screened for radioactivity because prior site knowledge and prior site data indicated elevated activities were not present. However, all sample containers were screened and released for transport to the Sample Management Office (SMO) by radiological control technicians (RCTs).

Field screening for organic vapors was conducted for all samples submitted for VOC analysis. Screening was conducted using an ION Science, Ltd, PhoCheck Tiger and RAE Systems MiniRAE 3000 PID equipped with 11.7-electron volt lamps. When screening was performed on a collected sample, the screening measurements were recorded on the field SCL.

#### 5.2.2 Field Screening for Radioactivity

Samples from SWMU 39-002(a), Area 2, investigated during the 2022–2023 investigation, were not screened because prior site knowledge and prior site data indicated elevated activities were not present.

#### 5.2.3 Field Screening for High Explosives

All samples were field screened for HE using EXPRAY explosive detection identification field test kits (i.e., HE spot test). Results were recorded on each sample collection log SCL/COC form.

### 5.2.4 Field Instrument Calibration

Instrument calibration and/or function check was completed daily. Several environmental factors affected the instruments' integrity, including air temperature, atmospheric pressure, wind speed, and humidity.

Calibration of the PID was conducted by the onsite field team lead or safety representative.

#### 5.2.4.1 Instrument Calibration

Calibration of the ION Science, Ltd., PhoCheck Tiger and a RAE Systems MiniRAE 3000 PID ppm VOC detectors was conducted by a qualified N3B Environment, Safety and Health professional or representative. All calibrations were performed according to the manufacturer's specifications and requirements. The PID ppm VOC detectors were zeroed using ambient-air and bump-checked daily using 100 ppm isobutylene reference gas and evaluated within 5% of the stated value. If the bump check was outside the 5% tolerance, then a complete calibration was conducted to the 100 ppm isobutylene reference gas. Calibration records were maintained on-site using field instrumentation environmental monitoring forms.

The following calibration was recorded daily on operational calibration logs:

- Site Location
- Date and Time
- Instrument manufacturer, model and serial number
- Span gas manufacturer/lot number
- Fresh air check reading (zero)
- Type and concentration of span gas used
- Bump-check reading with 100ppm isobutylene
- Name of person performing calibration check

## 5.2 Surface and subsurface sampling

This section summarizes the methods used for collecting surface and subsurface samples, including soil, fill, tuff, and sediment samples, according to the approved Phase II Investigation Work Plan (LANL 2011, 201561; NMED 2011, 203447)

### 5.2.1 Surface Soil Sampling Methods

Surface samples were collected in TA-39 using either spade-and-scoop or hand-auger methods. Surface samples were collected in accordance with SOP N3B-SOP-ER-2001, *Soil, Tuff, and Sediment Sampling*. A spade-and-scoop or hand-auger was used to collect sample material in approximately 5-in. increments. The samples were homogenized in a clean stainless steel bowl and transferred to sterile sample containers. Samples were preserved using coolers filled with ice to maintain the required temperature in accordance with SOP N3B-SOP-ER-2001, *Soil, Tuff, and Sediment Sampling*.

### 5.2.2 Subsurface Soil Sampling Methods

Subsurface samples were collected at SWMU 39-001(a), Area 2 using the hand-auger methods. Subsurface samples were collected in accordance with SOP N3B-SOP-ER-2001, *Soil, Tuff, and Sediment Sampling*. A hand-auger was used to collect sample material in approximately 1-ft. increments. The samples were homogenized in a clean stainless steel bowl and transferred to sterile sample

containers. Samples were preserved using coolers filled with ice to maintain the required temperature in accordance with SOP N3B-SOP-ER-2001, *Soil, Tuff, and Sediment Sampling*.

Sample material from the subsurface was field screened for organic vapors, visually inspected, and sample information including soil characteristics and the depths were recorded. Following inspections, samples for VOC analysis were collected immediately to minimize the loss of subsurface VOCs during the sample collection process. After collection of the VOC samples, the material to be sampled was placed in a stainless-steel bowl. The material was crushed, if necessary, with a clean hammer, and homogenized with a stainless-steel spoon and transferred to sterile sample containers.

The tools used to collect soil samples were decontaminated immediately before each sample was collected in accordance with SOP N3B-SOP-ER-2002, *Field Decontamination of Equipment*.

### 5.2.3 Quality Control Samples

Quality control (QC) samples were collected in accordance with SOP N3B-SOP-SDM-1100, *Sample Containers, Preservation and Field Quality Control*. The QC samples included field duplicates, field rinsate blanks, and field trip blanks.

Field duplicate samples were collected from the same material as regular investigation samples and submitted for the same analyses. Field duplicate samples were collected at a minimum rate of 1 per 10 investigation samples.

Field rinsate blanks were collected to evaluate field decontamination procedures. Rinsate blanks were collected by rinsing sampling equipment (i.e., sampling bowls and spoons, hand auger buckets) after decontamination with deionized water. The rinsate water was collected in a sample container and submitted to the SMO for offsite laboratory analysis. Rinsate blanks were also collected at a minimum rate of 1 per 10 investigation samples to confirm decontamination of the sampling equipment.

When VOC samples were collected, field trip blank samples were maintained with investigation samples at a minimum rate of 1 per day.

### 5.2.4 Sample Documentation and Handling

Field personnel completed a SCL form for each sample collected. Sample containers were sealed with signed custody seals and placed in coolers with an approximate 4-degree Celsius temperature. Samples were handled in accordance with SOP N3B-SOP-ER-2001, *Soil, Tuff, and Sediment Sampling*. Swipe samples were collected from the exterior of sample containers and analyzed by the RCT before the sample containers were removed from the site. Samples were transported to the SMO for processing and shipment to off-site contract analytical laboratories. The SMO personnel reviewed and approved the SCLs and accepted custody of the samples.

### 5.2.5 Decontamination of Sampling Equipment

All sampling equipment that came into (or could have come into) contact with the sample material were decontaminated after each individual use to avoid cross-contamination between samples and sampling locations. All decontamination activities were performed in accordance with N3B-SOP-ER-2002, *Field Decontamination of Equipment*. Decontaminated equipment was surveyed by an RCT before it was released from the site.

### 5.2.6 Site Demobilization and Restoration

All equipment used during the investigation and remediation activities will be decontaminated and screened for radioactivity prior to being demobilized from the site. All temporary fencing and staging areas will be dismantled and returned to preinvestigation conditions. All excavated and disturbed areas will be re-graded as necessary and re-seeded with a native grass mix.

## 5.3 Soil Remediation

### 5.3.1 Preexcavation Sampling

Preexcavation samples were collected and analyzed for PCBs to define lateral and vertical extent of contamination. Preexcavation sampling locations were offset in 5- and 10-ft step-outs north, south, east, and west from the proposed remediation location to define lateral extent, per the approved Phase II Investigation Work Plan (LANL 2011, 201561; NMED 2011, 203447). Preexcavation samples were also collected at depth to define vertical extent. All samples were submitted for off-site laboratory analysis of the target analytes. If a sample result determined analyte(s) were above the industrial SSL, additional samples were collected at additional step-out locations or deeper depths, as appropriate in order to determine the bounding limits of the contamination. If a preexcavation sample result was less than the proposed cleanup level, the sample became a confirmation sample and defines the lateral or vertical extent of the proposed excavation.

### 5.3.2 Excavation

During excavations performed under the Phase II investigations at the North Ancho Canyon Aggregate Area, a backhoe or mini excavator will be used to remove environmental media exceeding target cleanup levels, and the media managed as IDW in compliance with the approved waste characterization strategy forms. If required, additional confirmation samples will be collected. During excavation activities, dust suppression will be used in accordance with the required health and safety requirements. Following remediation, excavated areas will be backfilled with clean base course fill, compacted, and regraded.

### 5.3.3 Decontamination of Excavation Equipment

All excavation equipment will be decontaminated to ensure the equipment meets release criteria. Any residual material adhering to equipment will be removed using dry decontamination methods, such as the use of wire brushes and scrapers. All decontamination activities will be performed in accordance with N3B-SOP-ER-2002, *Field Decontamination of Equipment*. PCB swipe samples will be collected from the tires and buckets on the equipment used for the remediation activities. Decontaminated equipment will be surveyed by an RCT before being released from the site.

## 5.4 Geodetic Surveying

Geodetic surveys will be conducted during the Phase II investigation to identify surface and subsurface sampling locations. The planned sampling locations for the Phase II investigation are described in the approved investigation work plan (LANL 2011, 201561; NMED 2011, 203447). Geodetic surveys are performed to establish and mark the planned sampling locations in the field and to document excavation boundaries.

Geodetic surveys are conducted using a multiband real-time kinematic global positioning system (GPS) with horizontal accuracy within 0.1 ft. During sampling, if the planned location could not be sampled

because of surface or subsurface obstruction or other unanticipated field conditions, the relocated sampling location was resurveyed.

All coordinates are expressed as State Plane Coordinate System 83, New Mexico Central, U.S. All surveyed coordinates for sampling locations were uploaded to the Environmental Information Management database.

The limits of the area to be excavated will be surveyed and staked prior to excavation. The final excavated depth will be confirmed with GPS and/or tape measure with photo documentation, if possible, following removal.

### 5.5 Waste Management and Disposal

PCB remediation waste, including soils excavated under the PCB cleanup plan will be managed on-site in accordance with 40 CFR 761.40. Off-site disposal of all wastes will be conducted in compliance with applicable regulations. All IDW generated during the field investigation and excavation activities is managed in accordance with the approved waste characterization strategy forms and N3B-P409-0, *N3B Waste Management*. Waste characterization samples are collected, if required, to properly characterize generated waste in accordance with the waste acceptance criteria (WAC) for the intended disposal facility.

## 6.0 LABORATORY ANALYTICAL REPORTS

This section discusses the analytical methods and data-quality review for samples collected during the Phase II investigation of the North Ancho Canyon Aggregate Area at TA-39 for SWMU 39-002(a), Area 2 at Los Alamos National Laboratory.

N3B uses the Environmental Information Management (EIM) database for data management. This is a cloud-based data management platform used for managing sampling events, tracking the packaging and transportation of samples, and storing the resultant data. In addition to N3B, Triad National Security, LLC (Triad) and DOE Oversight Bureau of the New Mexico Environment Department (NMED) share EIM for all environmental analytical data. EIM interfaces with Intellus New Mexico (Intellus), a fully searchable database available to the public through the Intellus website (http://www.intellusnm.com).

The system, written and maintained by Locus Technologies, consists of a cloud-based structured query language (SQL) server database platform coupled with a web-based user interface. It is a comprehensive sample and data management application, designed to manage the process from sample planning through data review and reporting. It includes modules for sample planning, sample tracking, manual and electronic field data upload, electronic data deliverables (EDDs) upload, automated data review (ADR) routines, notification emails, and reporting tools.

N3B ensures that reported external analytical laboratory data are of sufficient quality to fulfill their intended purpose and that the condition of the data is documented so that future users of analytical laboratory results produced for the Los Alamos Legacy Cleanup Contract can use the data. The data collected must have sufficient quality and quantity to support defensible decision-making as described in EPA guidance (https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4). The N3B Sample Data Management Program has data quality objectives detailing minimum quality assurance (QA)/QC requirements.

Data examination, verification, and validation include (1) application of data qualifiers and reason codes to analytical results and (2) modification of detection status, based on outcome of specific laboratory QC sample analyses (e.g., spikes, duplicates, surrogates, method blanks [MBs], laboratory control samples [LCSs], and tracers), holding times, proper preservation, and field QC samples as applicable. The process also includes a best-selection evaluation to determine the best value for multiple analytical results of the same analyte from the same sample. Qualification of 100% of analytical data occurs during verification using the EIM ADR module, and a minimum of 10% of analytical data is also subjected to a more in-depth validation by an N3B chemist.

During this process, individual sample results are qualified as accepted or rejected. Data that are accepted per the validation criteria are classified as follows: not detected (U), estimated but not detected (UJ), estimated (J), or detected without data qualification (NQ). Accepted data can then be used as needed, assuming that no problems occurred during the sampling events. Data that are rejected (R) per the validation criteria are unusable. In addition, the analytical results can also be further labeled with data validation reason codes that explain the reason for the qualification.

N3B data validation is performed externally by the analytical laboratory and end users of the data. This data validation process applies a defined set of performance-based criteria to analytical data, which may result in qualification of that data. Data validation provides a level of assurance, based on this technical evaluation, of the data quality. N3B validation of chemistry data includes a technical review of the analytical data package that covers the evaluation of both field and laboratory QA/QC samples, the identification and quantitation of analytes, and the effect of QA/QC deficiencies on analytical data, as well as other factors affecting the data quality.

Sampling and data validation were conducted using SOPs and other documents that are part of N3B's comprehensive QA/QC program. Procedures and other documents include the most current version of the following:

- N3B-SOP-ER-2001, "Soil, Tuff, and Sediment Sampling"
- N3B-SOP-SDM-1100, "Sample Containers, Preservation, and Field Quality Control"
- N3B-SOP-SDM-1101, "Sample Control and Field Documentation"
- N3B-SOP-SDM-1102, "Sample Receiving and Shipping by the N3B Sample Management Office"
- N3B-ER-AP-SDM-3001, "Validation of Volatile Organic Compounds Analytical Data"
- N3B-AP-SDM-3003, "Validation of Organochlorine Pesticides and Herbicides and Polychlorinated Biphenyls Analytical Data"
- N3B-AP-SDM-3005, "Validation of Metals Analytical Data"
- N3B-AP-SDM-3006, "Validation of Radiochemical Analytical Data
- N3B-AP-SDM-3007, "Validation of General Chemistry Analytical Data"
- N3B-AP-SDM-3008, "Validation of High Explosives Analytical Data"
- N3B-AP-SDM-3012, "Validation of Analytical Data by Liquid Chromatography and Liquid Chromatography/Tandem Mass Spectrometry"

After the sampling event is planned using the EIM Sample Request module, sample collection logs are created and printed to serve as COC documents and analytical request forms.

Following sample collection, sampling personnel deliver the samples and the field collection log to sample management personnel at the N3B SMO. An analytical COC is then created, which includes the field sample identification number, the date and time of field sample collection, the analytical parameters group code, and the number of bottles for each analytical parameter group. The N3B SMO ships the samples to the appropriate laboratory for analysis.

The laboratory QA/QC process is defined in the appropriate analytical method and the external analytical laboratory statement of work (SOW).

All Phase II investigation samples were analyzed for all or a subset of the following analytes: TAL metals, total cyanide, PCBs, semi-volatile organic compounds (SVOC), VOC, nitrate, perchlorate, explosives, and isotopic uranium.

The external laboratory uploads the EDD and its corresponding analytical data PDF data package to EIM. The data are then validated both manually and in the EIM auto validation process, then reviewed by an N3B chemist at the appropriate level, and then fully transferred into EIM.

## 7.0 PCB CLEANUP COMPLETION REPORT

Upon completion of the described cleanup activities, a PCB cleanup completion report will be submitted to EPA. This summary report will document results of soil sampling and analysis, soil removal activities, and disposition of the excavated soil.

## 8.0 SUBPART Q ALTERNATIVE METHOD

The area of SWMU 39-002(a), Area 2 that will be excavated to remove substantially elevated levels of Aroclor-1254 contamination is shown on Figure 13.0-6.

- The collection of lateral bounding samples was necessary to verify the horizontal bounds of contamination surrounding sampling location 39-61760. PCB-contaminated soil (Aroclor-1254) that exceeds the industrial SSL (11 mg/kg) within the area encompassed by locations 39-61845, 39-61846, 39-61848, and 39-61849 to a depth of 2 ft bgs will be excavated. Use of industrial SSLs in this manner will meet PCB cleanup levels of $\leq$25 PPM as defined by 40 CFR 761.61(a)(4)(i)(B). Samples were collected from a maximum depth of seven feet bgs from locations 39-61760, 39-61845, 39-61846, 39-61848, and 39-61849 to define the depth of the excavation and to confirm cleanup to the industrial SSL.

- Removal of the PCB-contaminated soil (Aroclor-1254) that exceeds the industrial SSL will be performed. Use of industrial SSLs in this manner will meet PCB cleanup levels of $\leq$25 PPM as defined by 40 CFR 761.61(a)(4)(i)(B).The results of the lateral and vertical extent sampling conducted at SWMU 39-002(a), Area 2 during 2023 have defined the lateral extent and the vertical depth of the excavation. The excavation around sampling location 39-61760 will be performed to a depth of 2 ft bgs and is laterally bounded by the step-out sampling locations where PCB results are below the industrial SSLs and will result in estimated excavation dimensions of 9 ft x 10.7 ft x 2 ft or approximately seven cubic yards.

Based on the sampling conducted for the Phase II Investigation Report for North Ancho Canyon Aggregate Area, N3B requests that EPA allow an alternate confirmation sampling approach to 40 CFR 761, Subpart A. As noted in the bulleted text above, initial sampling has been conducted and analytical

results have been received that define the lateral and vertical extent of contamination and that have determined the excavation area and the quantity of soil to remove.

## 9.0 QA/QC FOR DOCUMENTING CLEANUP LEVELS HAVE BEEN ACHIEVED

Soil cleanup activities are being conducted at SWMU 39-002(a), Area 2 under the 2016 Consent Order. The objective of these activities is to demonstrate that, following cleanup, the site does not pose an unacceptable risk to human health under the current and reasonably foreseeable future land use, and does not pose an unacceptable risk to ecological receptors. After removing the excavated samples, the existing data set described herein will be used to perform human-health and ecological risk screening assessments to document that the cleanup objectives and cleanup levels specified in Section IX of the Consent Order have been met. The results of the soil removal and risk-screening will be presented in the Phase II Investigation Report for North Ancho Canyon Aggregate Area to be submitted to the NMED for review and approval, with a copy submitted to the EPA. Upon review and approval of the report by NMED, N3B will request a certificate of completion of corrective action under Section XXI of the Consent Order. The Consent Order requirements for Certification of Completion.

The plan for SWMU 39-002(a), Area 2 is to complete removal of soil contaminated substantially above cleanup levels as determined by analytical data results. The results will be documented in the Phase II Investigation Report. As bounding preexcavation samples have already been collected, no additional confirmatory samples are planned. Refer to section 5.0 of this Checklist for information regarding SOPs, QA, and QC.

Figure 13.0-3 depicts the locations of the lateral and vertical extent sampling, and Table 14.0-5 documents the location and depth from which samples were collected during the winter of 2023.

## 10.0 SITE OWNERSHIP

Los Alamos National Laboratory will remain property of the United States Department of Energy. Laboratory personnel and contractors have limited access to TA-39 and the area encompassing SWMU 39-002(a), Area 2, and the surrounding areas of North Ancho Canyon. TA-39 is, and will remain in perpetuity, under the ownership and control of the DOE for non-residential, non-recreational activities.

## 11.0 USE OF A CAP

Upon completion of the described cleanup, SWMU 39-002(a), Area 2 will meet the requirements for low occupancy areas described in 40 CFR 761.61(a)(4)(i)(B), therefore, a cap will not be used in conjunction with the removal of PCB contaminated soils from this area.

## 12.0 CHECKLIST DOCUMENT 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.*

LANL (Los Alamos National Laboratory), January 2010. "Investigation Report for North Ancho Canyon Aggregate Area, Revision 1," Los Alamos National Laboratory document LA-UR-10-0125, Los Alamos, New Mexico. (LANL 2010, 108500.11)

LANL (Los Alamos National Laboratory), March 2011. "Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area Revision 1," Los Alamos National Laboratory document LA-UR-11-1817, Los Alamos, New Mexico. (LANL 2011, 201561)

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), November 14, 2019. "Field Completion Letter Report for Aggregate Areas Known Cleanup Sites Campaign: SWMU 39-002(a), SWMU 46-004(q), SWMU 15-008(b), and SWMU 15-007(c)," Newport News Nuclear BWXT-Los Alamos, LLC document, Los Alamos, New Mexico. (N3B 2019, 700665)

NMED (New Mexico Environment Department), January 28, 2010. "Approval, Investigation Report for North Ancho Canyon Aggregate Area, Revision 1," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2010, 108675)

NMED (New Mexico Environment Department), May 13, 2011. "Approval with Modifications, Phase II Investigation Work Plan North Ancho Canyon Aggregate Area, Revision 1," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2011, 203447)

U.S. Congress (2016), Frank R. Lautenberg Chemical Safety for the 21st Century Act, House Bill 2576. January 4, 2016. Retrieved from http://www.congress.gov/bill/114th-congress/house-bill/2576/text

## 13.0 SITE FIGURES

Site Maps: Existing PCB Data for SWMU 39-002(a), Area 2

The following site maps summarize the analytical results presented in section 2.0, Table 14.0-1 of this document.

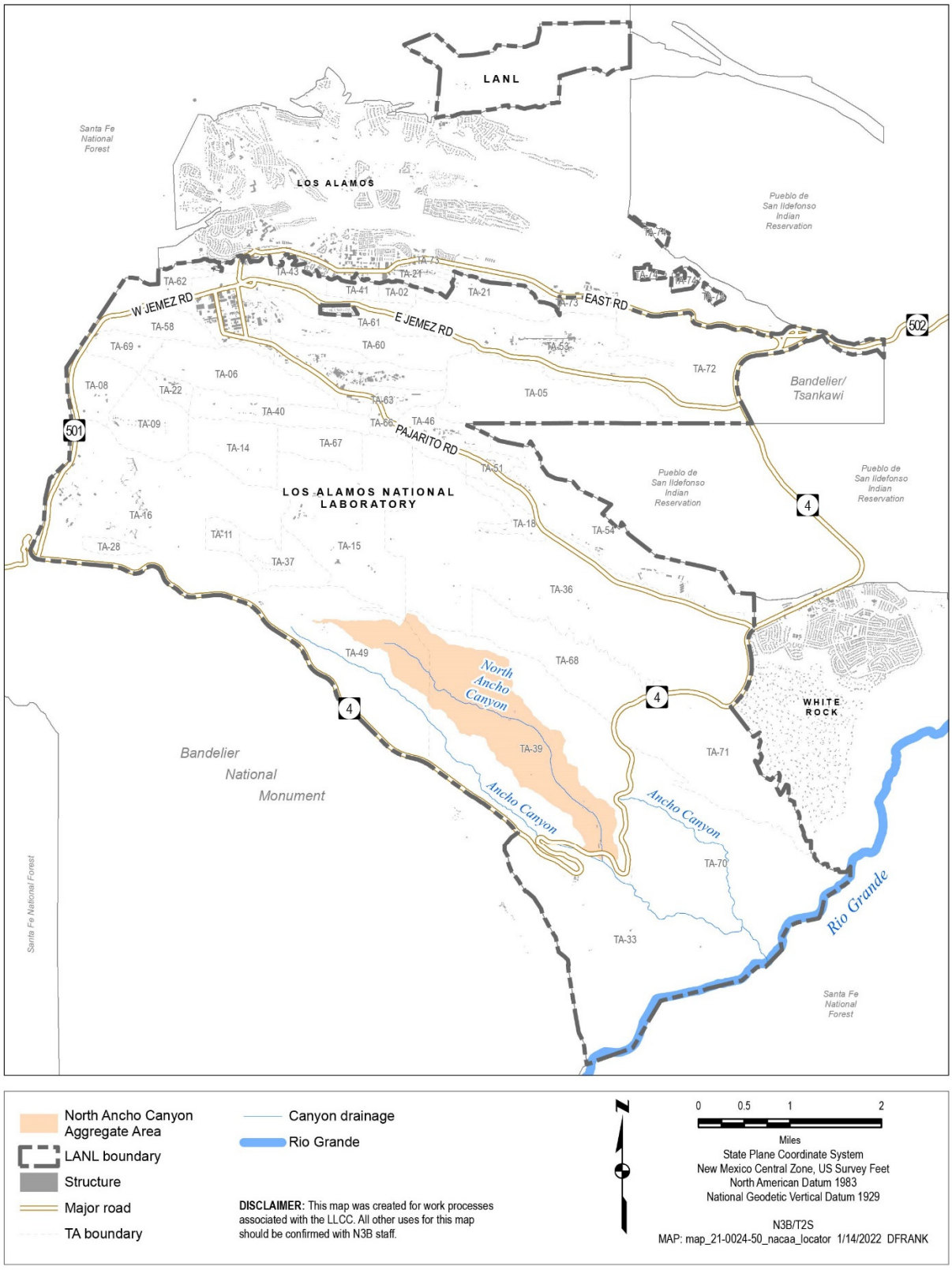


**Figure 13.0-1 Location of TA-39 at Los Alamos National Laboratory**

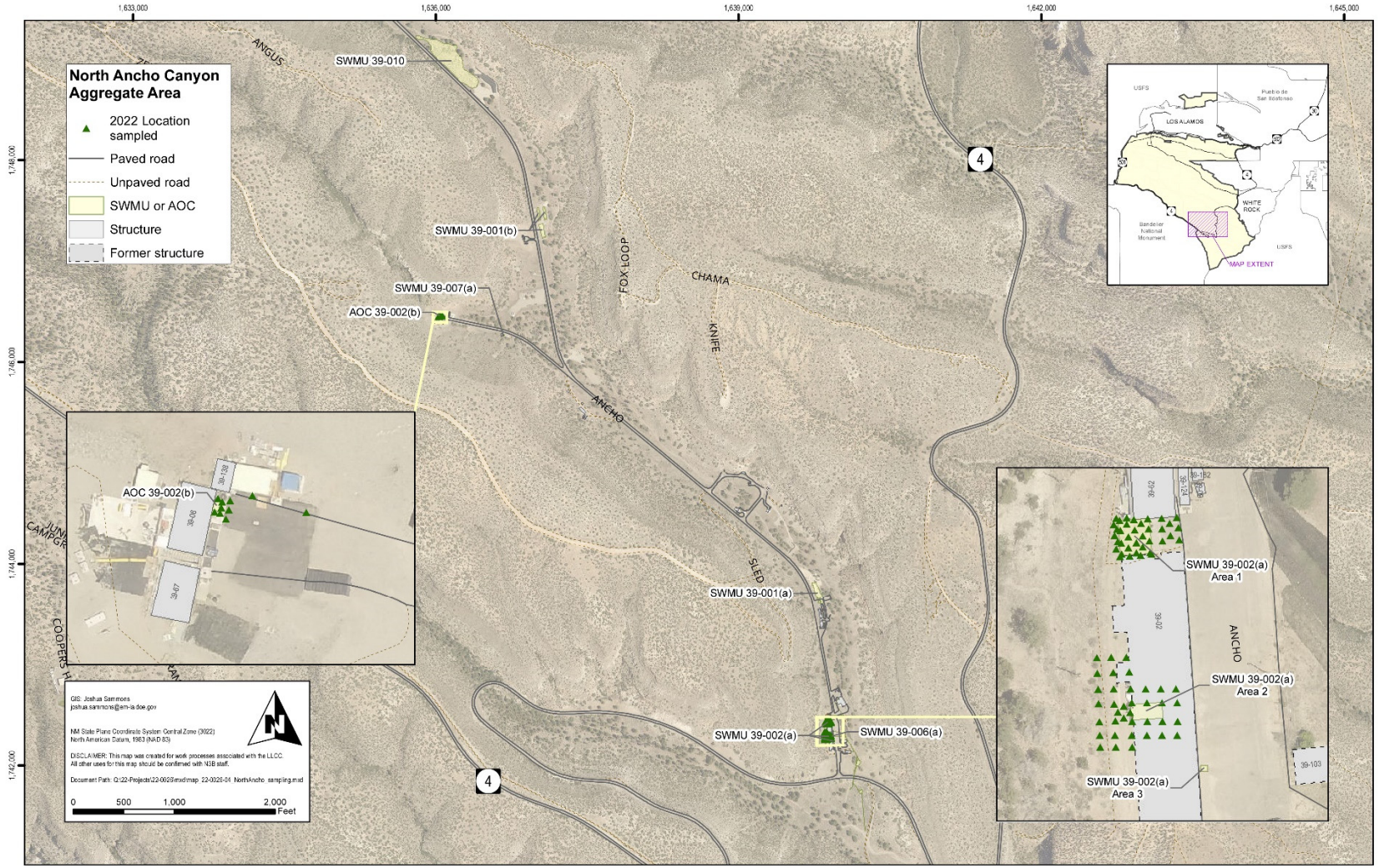


**Figure 13.0-2 Site Map of SWMU 39-002(a)**

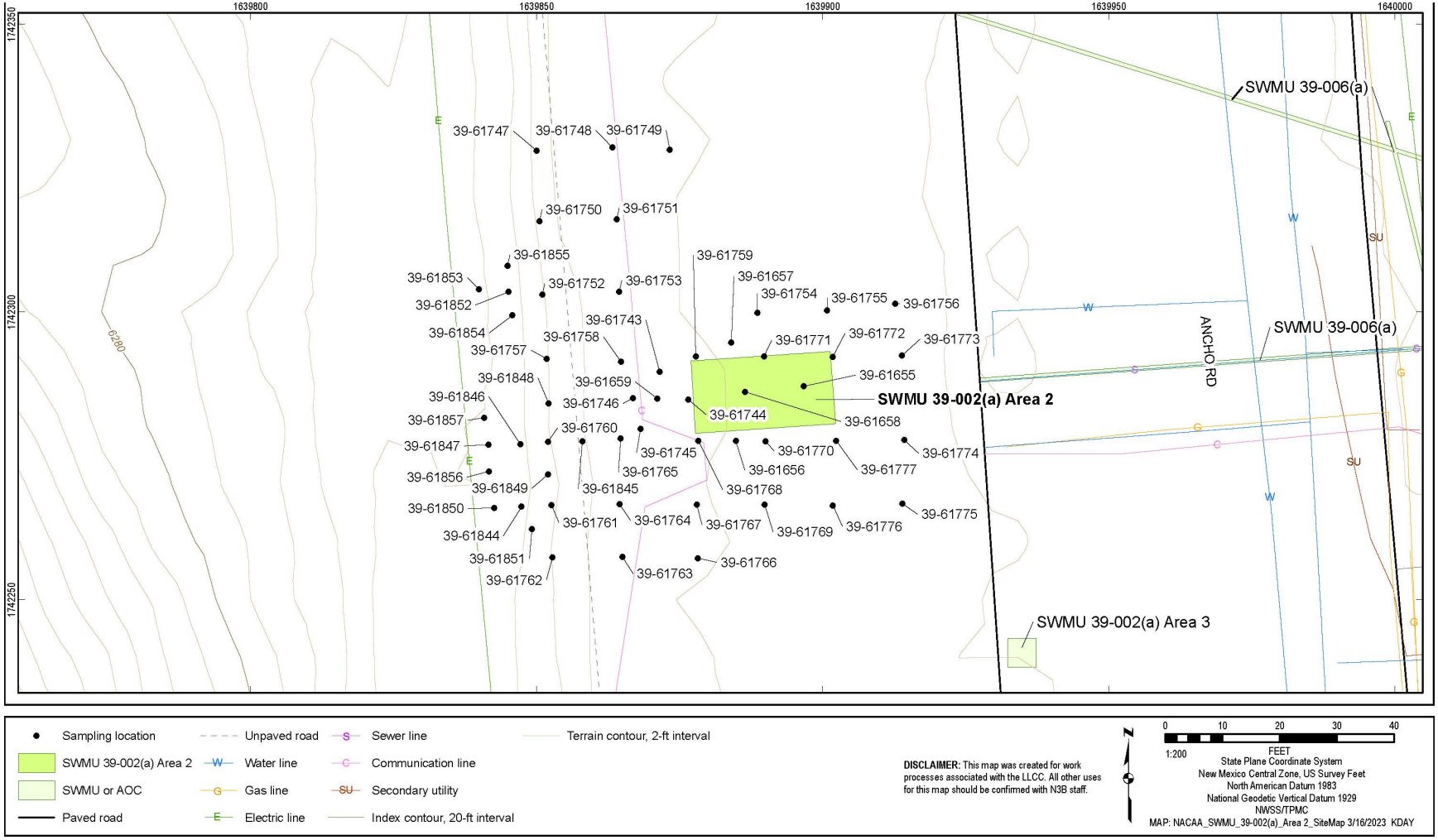


**Figure 13.0-3 Site Map and Sampling Locations for SWMU 39-002(a), Area 2**

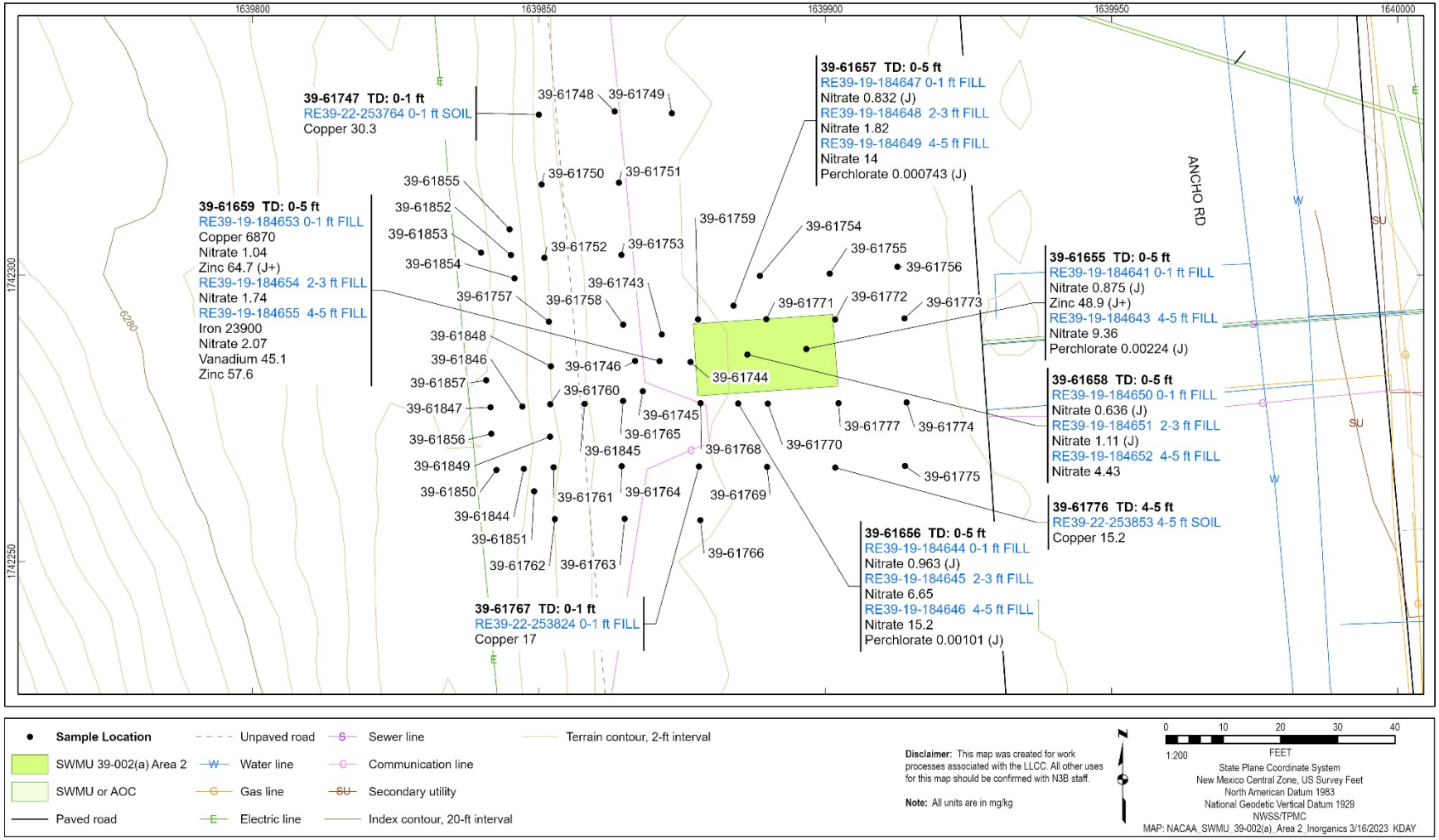


**Figure 13.0-4 Inorganic Chemicals Detected above Background Values at SWMU 39-002(a), Area 2**

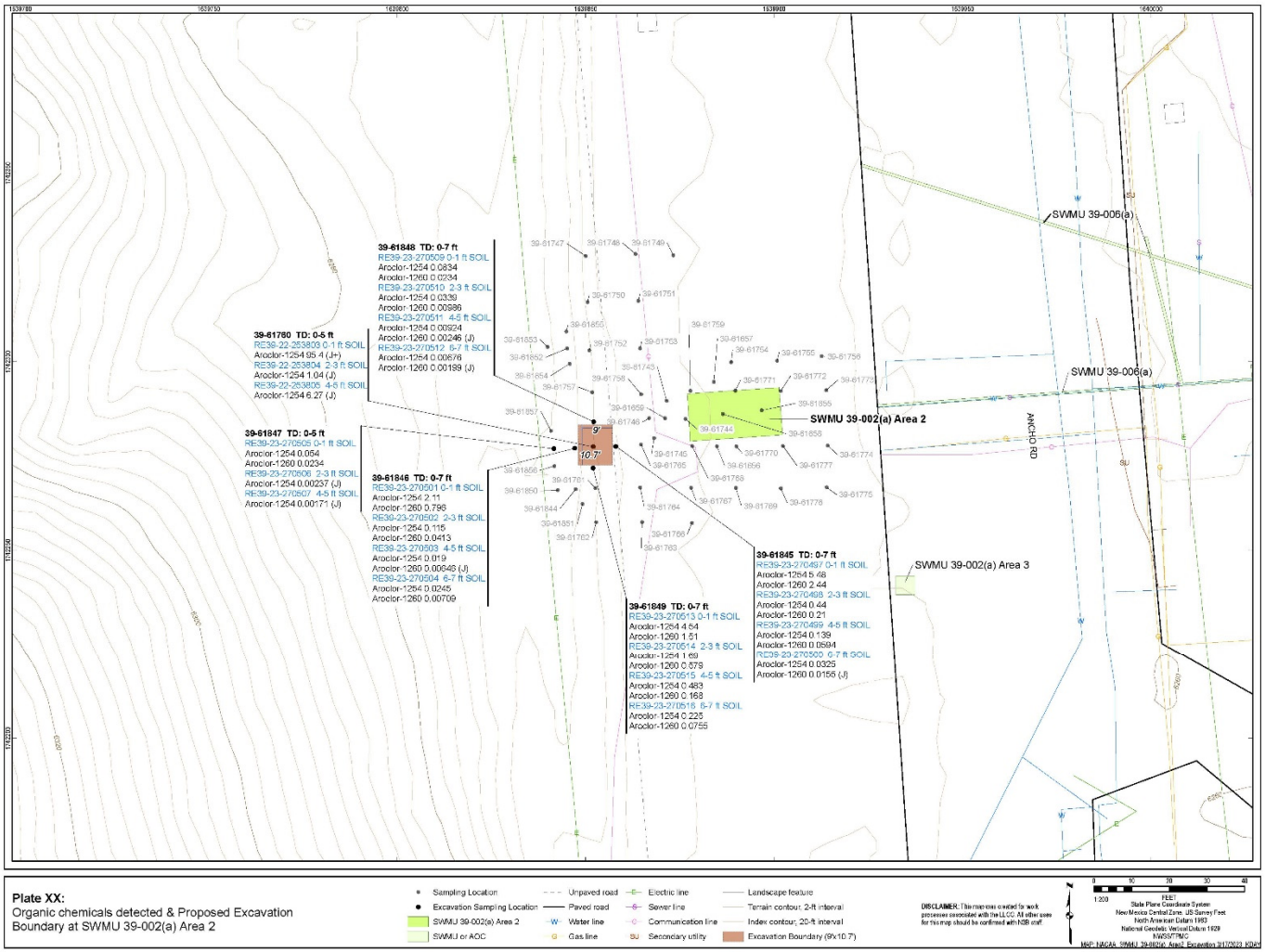


**Figure 13.0-5 Organic Chemicals Detected at SWMU 39-002(a), Area 2**

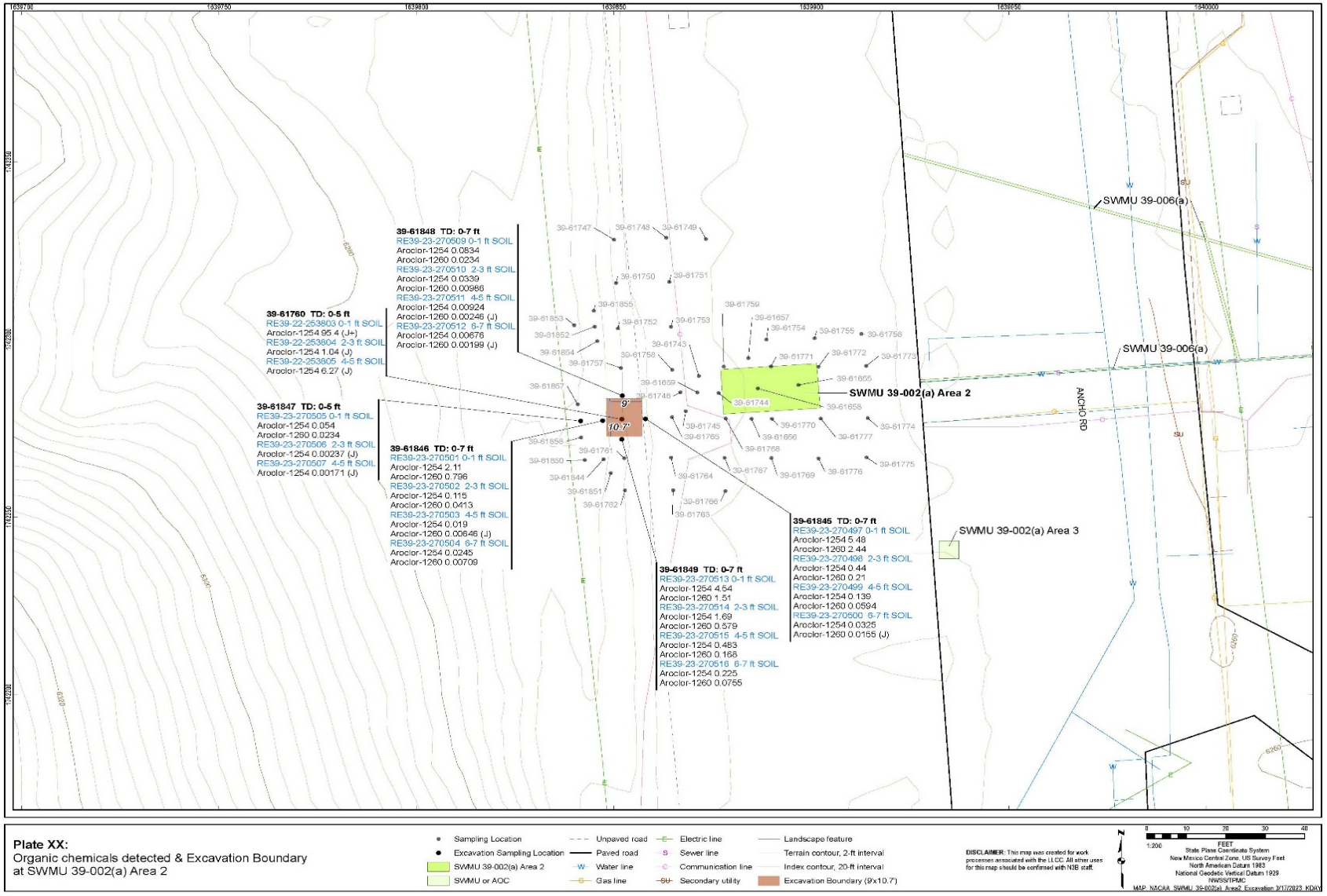


**Figure 13.0-6 Planned Excavation Area at SWMU 39-002(a), Area 2**

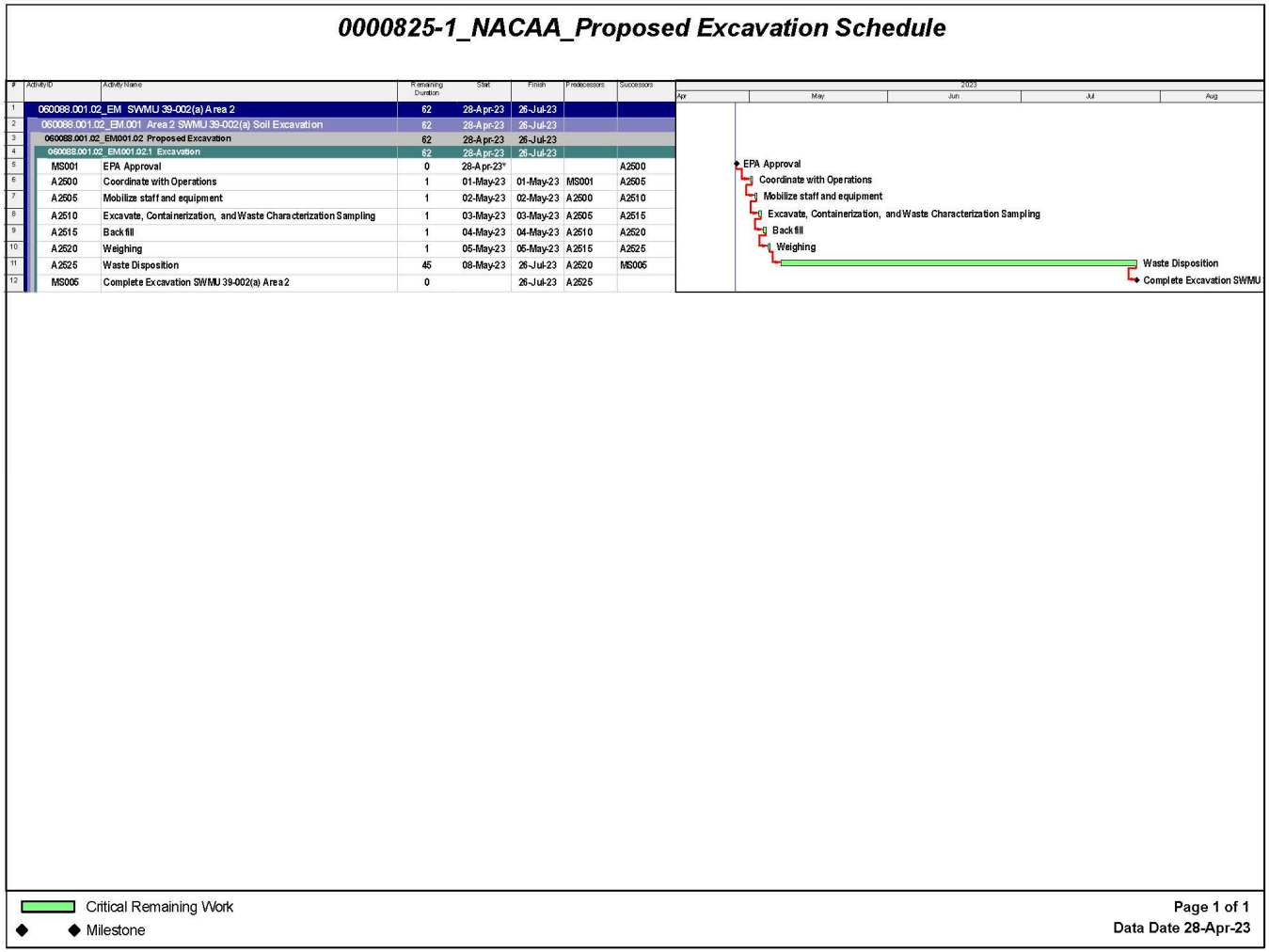


**Figure 13.0-7 North Ancho Canyon Aggregate Area Proposed Excavation Schedule**

## 14.0 TABLES

**Table 14.0-1**

**PCB Analytical Results for SWMU 39-002(a), Area 2**

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-19-184641 | 39-61655 | 0–1 | FILL | 0.00127 (U) | 0.00127 (U) | 0.00127 (U) |
| RE39-19-184642 | 39-61655 | 2–3 | FILL | 0.00126 (U) | 0.00126 (U) | 0.00126 (U) |
| RE39-19-184643 | 39-61655 | 4–5 | FILL | 0.00129 (U) | 0.00129 (U) | 0.00129 (U) |
| RE39-19-184644 | 39-61656 | 0–1 | FILL | 0.0769 | 0.161 | 0.0346 |
| RE39-19-184645 | 39-61656 | 2–3 | FILL | 0.00795 | 0.00425 | 0.0013 (J) |
| RE39-19-184646 | 39-61656 | 4–5 | FILL | 0.00127 (U) | 0.00127 (U) | 0.00127 (U) |
| RE39-19-184647 | 39-61657 | 0–1 | FILL | 0.0262 (U) | 0.988 | 0.185 |
| RE39-19-184648 | 39-61657 | 2–3 | FILL | 0.00128 (U) | 0.00217 (J) | 0.00128 (U) |
| RE39-19-184649 | 39-61657 | 4–5 | FILL | 0.00134 (U) | 0.00134 (U) | 0.00134 (U) |
| RE39-19-184650 | 39-61658 | 0–1 | FILL | 0.00124 (U) | 0.0152 | 0.00124 (U) |
| RE39-19-184651 | 39-61658 | 2–3 | FILL | 0.00125 (U) | 0.00125 (U) | 0.00125 (U) |
| RE39-19-184652 | 39-61658 | 4–5 | FILL | 0.00126 (U) | 0.00126 (U) | 0.00126 (U) |
| RE39-19-184653 | 39-61659 | 0–1 | FILL | 0.247 (U) | 8.26 | 0.247 (U) |
| RE39-19-184654 | 39-61659 | 2–3 | FILL | 0.00263 (U) | 0.115 | 0.00263 (U) |
| RE39-19-184655 | 39-61659 | 4–5 | FILL | 0.0027 (U) | 0.125 | 0.0027 (U) |
| RE39-22-253752 | 39-61743 | 0–1 | SOIL | 0.0116 (U) | 0.471 (J) | 0.152 |
| RE39-22-253753 | 39-61743 | 2–3 | SOIL | 0.0247 (U) | 0.782 (J) | 0.0247 (U) |
| RE39-22-253754 | 39-61743 | 4–5 | SOIL | 0.13 (U) | 4.94 (J) | 0.13 (U) |
| RE39-23-270490 | 39-61743 | 6–7 | SOIL | 0.00691 (U) | 0.252 | 0.071 |
| RE39-23-270491 | 39-61743 | 9–10 | SOIL | 0.0117 (U) | 0.413 (J) | 0.126 (J) |
| RE39-22-253755 | 39-61744 | 0–1 | SOIL | 0.00607 (U) | 0.208 | 0.00607 (U) |
| RE39-22-253756 | 39-61744 | 2–3 | SOIL | 0.0339 (U) | 1.31 | 0.0339 (U) |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-22-253757 | 39-61744 | 4–5 | SOIL | 0.667 | 1.26 | 0.033 (U) |
| RE39-22-253758 | 39-61745 | 0–1 | SOIL | 0.00117 (U) | 0.0684 | 0.00117 (U) |
| RE39-22-253759 | 39-61745 | 2–3 | SOIL | 0.0253 (U) | 0.738 | 0.0253 (U) |
| RE39-22-253760 | 39-61745 | 4–5 | SOIL | 0.0264 (U) | 0.71 | 0.0264 (U) |
| RE39-22-253761 | 39-61746 | 0–1 | SOIL | 0.299 (U) | 7.19 | 0.299 (U) |
| RE39-22-253762 | 39-61746 | 2–3 | SOIL | 0.0128 (U) | 0.47 | 0.0128 (U) |
| RE39-22-253763 | 39-61746 | 4–5 | SOIL | 0.00678 (U) | 0.23 | 0.00678 (U) |
| RE39-22-253764 | 39-61747 | 0–1 | SOIL | 0.00596 (U) | 0.0583 | 0.00596 (U) |
| RE39-22-253765 | 39-61747 | 2–3 | SOIL | 0.00121 (U) | 0.00246 (J) | 0.00121 (U) |
| RE39-22-253766 | 39-61747 | 4–5 | SOIL | 0.00119 (U) | 0.00119 (U) | 0.00119 (U) |
| RE39-22-253767 | 39-61748 | 0–1 | FILL | 0.0115 (U) | 0.286 | 0.0115 (U) |
| RE39-22-253768 | 39-61748 | 2–3 | SOIL | 0.0133 (U) | 0.429 | 0.0133 (U) |
| RE39-22-253769 | 39-61748 | 4–5 | SOIL | 0.00137 (U) | 0.0355 | 0.00137 (U) |
| RE39-22-253770 | 39-61749 | 0–1 | FILL | 0.00115 (U) | 0.0017 (J) | 0.00115 (U) |
| RE39-22-253771 | 39-61749 | 2–3 | SOIL | 0.0654 (U) | 3.26 | 0.0654 (U) |
| RE39-22-253772 | 39-61749 | 4–5 | SOIL | 0.0254 (U) | 0.941 | 0.0254 (U) |
| RE39-22-253773 | 39-61750 | 0–1 | SOIL | 0.0117 (U) | 0.615 | 0.251 |
| RE39-22-253774 | 39-61750 | 2–3 | SOIL | 0.00119 (U) | 0.0385 | 0.0153 |
| RE39-22-253775 | 39-61750 | 4–5 | SOIL | 0.00121 (U) | 0.0241 | 0.0103 |
| RE39-22-253776 | 39-61751 | 0–1 | SOIL | 0.0117 (U) | 0.507 | 0.184 |
| RE39-22-253777 | 39-61751 | 2–3 | SOIL | 0.0014 (U) | 0.0258 | 0.0014 (U) |
| RE39-22-253778 | 39-61751 | 4–5 | SOIL | 0.00139 (U) | 0.0208 | 0.00737 |
| RE39-22-253779 | 39-61752 | 0–1 | SOIL | 0.228 (U) | 11.8 | 4.18 |
| RE39-22-253780 | 39-61752 | 2–3 | SOIL | 0.0582 (U) | 1.47 | 0.553 |
| RE39-22-253781 | 39-61752 | 4–5 | SOIL | 0.0237 (U) | 0.742 | 0.233 |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-22-253782 | 39-61753 | 0–1 | SOIL | 0.249 (U) | 10.6 | 3.13 |
| RE39-22-253783 | 39-61753 | 2–3 | SOIL | 0.00684 (U) | 0.162 | 0.0496 |
| RE39-22-253784 | 39-61753 | 4–5 | SOIL | 0.014 (U) | 0.668 | 0.182 |
| RE39-22-253785 | 39-61754 | 0–1 | SOIL | 0.00124 (U) | 0.00233 (J) | 0.00124 (U) |
| RE39-22-253786 | 39-61754 | 2–3 | SOIL | 0.00128 (U) | 0.00128 (U) | 0.00128 (U) |
| RE39-22-253787 | 39-61754 | 4–5 | SOIL | 0.0013 (U) | 0.0013 (U) | 0.0013 (U) |
| RE39-22-253788 | 39-61755 | 0–1 | SOIL | 0.00123 (U) | 0.00123 (U) | 0.00123 (U) |
| RE39-22-253789 | 39-61755 | 2–3 | SOIL | 0.0013 (U) | 0.0013 (U) | 0.0013 (U) |
| RE39-22-253790 | 39-61755 | 4–5 | SOIL | 0.0013 (U) | 0.0013 (U) | 0.0013 (U) |
| RE39-22-253791 | 39-61756 | 0–1 | SOIL | 0.00122 (U) | 0.00774 | 0.00122 (U) |
| RE39-22-253792 | 39-61756 | 2–3 | SOIL | 0.00127 (U) | 0.0143 | 0.00127 (U) |
| RE39-22-253793 | 39-61756 | 4–5 | SOIL | 0.0013 (U) | 0.00179 (J) | 0.0013 (U) |
| RE39-22-253794 | 39-61757 | 0–1 | SOIL | 0.0125 (U) | 0.378 | 0.0125 (U) |
| RE39-22-253795 | 39-61757 | 2–3 | SOIL | 0.00621 (U) | 0.163 | 0.00621 (U) |
| RE39-22-253796 | 39-61757 | 4–5 | SOIL | 0.00255 (U) | 0.0892 | 0.00255 (U) |
| RE39-22-253797 | 39-61758 | 0–1 | SOIL | 0.123 (U) | 4.25 | 0.123 (U) |
| RE39-22-253798 | 39-61758 | 2–3 | SOIL | 0.00135 (U) | 0.0547 | 0.00135 (U) |
| RE39-22-253799 | 39-61758 | 4–5 | SOIL | 0.0141 (U) | 0.376 | 0.0141 (U) |
| RE39-22-253800 | 39-61759 | 0–1 | SOIL | 0.00116 (U) | 0.0234 | 0.00116 (U) |
| RE39-22-253801 | 39-61759 | 2–3 | SOIL | 0.656 (U) | 16.5 | 0.656 (U) |
| RE39-22-253802 | 39-61759 | 4–5 | SOIL | 0.0635 (U) | 1.79 | 0.0635 (U) |
| RE39-22-253803 | 39-61760 | 0–1 | SOIL | 2.28 (U) | 95.4 (J+) | 2.28 (U) |
| RE39-22-253804 | 39-61760 | 2–3 | SOIL | 0.0235 (U) | 1.04 (J) | 0.0235 (U) |
| RE39-22-253805 | 39-61760 | 4–5 | SOIL | 0.118 (U) | 6.27 (J) | 0.118 (U) |
| RE39-22-253806 | 39-61761 | 0–1 | SOIL | 0.115 (U) | 4.41 (J) | 1.44 |
| RE39-22-253807 | 39-61761 | 2–3 | SOIL | 0.00566 (U) | 0.0701 (J) | 0.0228 |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-22-253808 | 39-61761 | 4–5 | SOIL | 0.00575 (U) | 0.121 (J) | 0.0419 |
| RE39-22-253809 | 39-61762 | 0–1 | SOIL | 0.0577 (U) | 1.04 (J) | 0.398 |
| RE39-22-253810 | 39-61762 | 2–3 | SOIL | 0.00116 (U) | 0.0159 (J) | 0.00639 |
| RE39-22-253811 | 39-61762 | 4–5 | SOIL | 0.00114 (U) | 0.0185 (J) | 0.00751 |
| RE39-22-253812 | 39-61763 | 0–1 | SOIL | 0.00604 (U) | 0.176 (J) | 0.00604 (U) |
| RE39-22-253813 | 39-61763 | 2–3 | SOIL | 0.00125 (U) | 0.00172 (J) | 0.00125 (U) |
| RE39-22-253814 | 39-61763 | 4–5 | SOIL | 0.00123 (U) | 0.012 (J) | 0.00123 (U) |
| RE39-22-253815 | 39-61764 | 0–1 | SOIL | 0.0121 (U) | 0.467 (J) | 0.0121 (U) |
| RE39-22-253816 | 39-61764 | 2–3 | SOIL | 0.00127 (U) | 0.0148 (J) | 0.00127 (U) |
| RE39-22-253817 | 39-61764 | 4–5 | SOIL | 0.00126 (U) | 0.00191 (J) | 0.00126 (U) |
| RE39-22-253818 | 39-61765 | 0–1 | SOIL | 0.0588 (U) | 1.13 (J) | 0.0588 (U) |
| RE39-22-253819 | 39-61765 | 2–3 | SOIL | 0.00129 (U) | 0.0154 (J) | 0.00129 (U) |
| RE39-22-253820 | 39-61765 | 4–5 | SOIL | 0.00131 (U) | 0.021 (J) | 0.00131 (U) |
| RE39-22-253821 | 39-61766 | 0–1 | FILL | 0.00112 (U) | 0.0607 (J) | 0.00112 (U) |
| RE39-22-253822 | 39-61766 | 2–3 | SOIL | 0.0646 (U) | 2.67 (J) | 0.0646 (U) |
| RE39-22-253823 | 39-61766 | 4–5 | SOIL | 0.0013 (U) | 0.0381 (J) | 0.0013 (U) |
| RE39-22-253824 | 39-61767 | 0–1 | FILL | 0.0113 (U) | 0.325 (J) | 0.0113 (U) |
| RE39-22-253825 | 39-61767 | 2–3 | SOIL | 0.128 (U) | 3.88 (J) | 0.128 (U) |
| RE39-22-253826 | 39-61767 | 4–5 | SOIL | 0.00636 (U) | 0.257 (J) | 0.00636 (U) |
| RE39-22-253827 | 39-61768 | 0–1 | FILL | 0.00119 (U) | 0.0728 | 0.0229 |
| RE39-22-253828 | 39-61768 | 2–3 | SOIL | 0.33 | 0.748 | 0.224 |
| RE39-22-253829 | 39-61768 | 4–5 | SOIL | 0.0729 | 0.0816 | 0.0244 |
| RE39-22-253830 | 39-61769 | 0–1 | SOIL | 0.00124 (U) | 0.051 | 0.0141 |
| RE39-22-253831 | 39-61769 | 2–3 | SOIL | 0.0257 (U) | 0.969 | 0.0257 (U) |
| RE39-22-253832 | 39-61769 | 4–5 | SOIL | 0.0065 (U) | 0.173 | 0.0516 |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-22-253833 | 39-61770 | 0–1 | SOIL | 0.00121 (U) | 0.0084 | 0.00315 (J) |
| RE39-22-253834 | 39-61770 | 2–3 | SOIL | 0.00129 (U) | 0.00168 (J) | 0.00129 (U) |
| RE39-22-253835 | 39-61770 | 4–5 | SOIL | 0.00129 (U) | 0.00129 (U) | 0.00129 (U) |
| RE39-22-253836 | 39-61771 | 0–1 | SOIL | 0.00122 (U) | 0.0228 | 0.00787 |
| RE39-22-253837 | 39-61771 | 2–3 | SOIL | 0.00126 (U) | 0.00126 (U) | 0.00126 (U) |
| RE39-22-253838 | 39-61771 | 4–5 | SOIL | 0.00128 (U) | 0.00128 (U) | 0.00128 (U) |
| RE39-22-253839 | 39-61772 | 0–1 | SOIL | 0.00588 (U) | 0.118 | 0.0454 |
| RE39-22-253840 | 39-61772 | 2–3 | SOIL | 0.00126 (U) | 0.00335 (J) | 0.00126 (U) |
| RE39-22-253841 | 39-61772 | 4–5 | SOIL | 0.00129 (U) | 0.00129 (U) | 0.00129 (U) |
| RE39-22-253842 | 39-61773 | 0–1 | SOIL | 0.00125 (U) | 0.0609 | 0.0161 |
| RE39-22-253843 | 39-61773 | 2–3 | SOIL | 0.00124 (U) | 0.0402 | 0.0132 |
| RE39-22-253844 | 39-61773 | 4–5 | SOIL | 0.00124 (U) | 0.00541 | 0.00188 (J) |
| RE39-22-253845 | 39-61774 | 0–1 | SOIL | 0.00115 (U) | 0.0096 | 0.00348 |
| RE39-22-253846 | 39-61774 | 2–3 | SOIL | 0.0013 (U) | 0.0169 | 0.00557 |
| RE39-22-253847 | 39-61774 | 4–5 | SOIL | 0.00129 (U) | 0.00293 (J) | 0.00129 (U) |
| RE39-22-253848 | 39-61775 | 0–1 | SOIL | 0.0012 (U) | 0.0556 | 0.0012 (U) |
| RE39-22-253849 | 39-61775 | 2–3 | SOIL | 0.00124 (U) | 0.00585 | 0.00124 (U) |
| RE39-22-253850 | 39-61775 | 4–5 | SOIL | 0.00126 (U) | 0.00126 (U) | 0.00126 (U) |
| RE39-22-253851 | 39-61776 | 0–1 | SOIL | 0.0012 (U) | 0.046 | 0.0012 (U) |
| RE39-22-253852 | 39-61776 | 2–3 | SOIL | 0.0013 (U) | 0.0244 | 0.0013 (U) |
| RE39-22-253853 | 39-61776 | 4–5 | SOIL | 0.00639 (U) | 0.192 | 0.00639 (U) |
| RE39-23-270492 | 39-61776 | 6–7 | SOIL | 0.00268 (U) | 0.13 | 0.0401 |
| RE39-23-270493 | 39-61776 | 9–10 | SOIL | 0.00118 (UJ) | 0.048 (J-) | 0.0151 (J-) |
| RE39-22-253854 | 39-61777 | 0–1 | SOIL | 0.00121 (U) | 0.112 | 0.00121 (U) |
| RE39-22-253855 | 39-61777 | 2–3 | SOIL | 0.00125 (U) | 0.00125 (U) | 0.00125 (U) |
| RE39-22-253856 | 39-61777 | 4–5 | SOIL | 0.00129 (U) | 0.00129 (U) | 0.00129 (U) |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-23-270494 | 39-61844 | 0–1 | SOIL | 0.00639 (U) | 0.115 (J) | 0.0516 |
| RE39-23-270495 | 39-61844 | 2–3 | SOIL | 0.0116 (U) | 0.291 (J) | 0.121 |
| RE39-23-270496 | 39-61844 | 4–5 | SOIL | 0.00118 (U) | 0.0396 (J) | 0.0148 |
| RE39-23-270497 | 39-61845 | 0–1 | SOIL | 0.0619 (U) | 5.48 | 2.44 |
| RE39-23-270498 | 39-61845 | 2–3 | SOIL | 0.0251 (U) | 0.44 | 0.21 |
| RE39-23-270499 | 39-61845 | 4–5 | SOIL | 0.0129 (U) | 0.139 | 0.0594 |
| RE39-23-270500 | 39-61845 | 6–7 | SOIL | 0.0063 (U) | 0.0325 | 0.0155 (J) |
| RE39-23-270501 | 39-61846 | 0–1 | SOIL | 0.0669 (U) | 2.11 | 0.796 |
| RE39-23-270502 | 39-61846 | 2–3 | SOIL | 0.00578 (U) | 0.115 | 0.0413 |
| RE39-23-270503 | 39-61846 | 4–5 | SOIL | 0.00233 (U) | 0.019 | 0.00646 (J) |
| RE39-23-270504 | 39-61846 | 6–7 | SOIL | 0.00234 (U) | 0.0245 | 0.00709 |
| RE39-23-270505 | 39-61847 | 0–1 | SOIL | 0.00127 (U) | 0.054 | 0.0234 |
| RE39-23-270506 | 39-61847 | 2–3 | SOIL | 0.00113 (U) | 0.00237 (J) | 0.00113 (U) |
| RE39-23-270507 | 39-61847 | 4–5 | SOIL | 0.00114 (U) | 0.00171 (J) | 0.00114 (U) |
| RE39-23-270508 | 39-61847 | 6–7 | SOIL | 0.00115 (U) | 0.00115 (U) | 0.00115 (U) |
| RE39-23-270509 | 39-61848 | 0–1 | SOIL | 0.0024 (U) | 0.0834 | 0.0234 |
| RE39-23-270510 | 39-61848 | 2–3 | SOIL | 0.00123 (U) | 0.0339 | 0.00986 |
| RE39-23-270511 | 39-61848 | 4–5 | SOIL | 0.00124 (U) | 0.00924 | 0.00246 (J) |
| RE39-23-270512 | 39-61848 | 6–7 | SOIL | 0.00124 (U) | 0.00676 | 0.00199 (J) |
| RE39-23-270513 | 39-61849 | 0–1 | SOIL | 0.127 (U) | 4.54 | 1.51 |
| RE39-23-270514 | 39-61849 | 2–3 | SOIL | 0.0586 (U) | 1.69 | 0.579 |
| RE39-23-270515 | 39-61849 | 4–5 | SOIL | 0.0116 (U) | 0.483 | 0.168 |
| RE39-23-270516 | 39-61849 | 6–7 | SOIL | 0.00601 (U) | 0.225 | 0.0755 |
| RE39-23-270517 | 39-61850 | 0–1 | SOIL | 0.00124 (U) | 0.0147 (J) | 0.00806 |
| RE39-23-270518 | 39-61850 | 2–3 | SOIL | 0.00113 (U) | 0.0151 (J) | 0.00649 |

| Sample ID | Location ID | Depth (ft) | Media | Aroclor-1248 | Aroclor-1254 | Aroclor-1260 |
|---|---|---|---|---|---|---|
| RE39-23-270519 | 39-61850 | 4–5 | SOIL | 0.00114 (U) | 0.00275 (J) | 0.00123 (J) |
| RE39-23-270520 | 39-61851 | 0–1 | SOIL | 0.0134 (U) | 0.474 (J) | 0.183 |
| RE39-23-270521 | 39-61851 | 2–3 | SOIL | 0.00584 (U) | 0.0904 (J) | 0.0365 |
| RE39-23-270522 | 39-61851 | 4–5 | SOIL | 0.00116 (U) | 0.0349 (J) | 0.0127 |
| RE39-23-270523 | 39-61852 | 0–1 | SOIL | 0.025 (U) | 0.777 (J) | 0.341 |
| RE39-23-270524 | 39-61852 | 2–3 | SOIL | 0.00117 (U) | 0.0524 (J) | 0.0225 |
| RE39-23-270525 | 39-61852 | 4–5 | SOIL | 0.00118 (U) | 0.0386 (J) | 0.0177 |
| RE39-23-270526 | 39-61853 | 0–1 | SOIL | 0.00118 (U) | 0.00467 (J) | 0.00226 (J) |
| RE39-23-270527 | 39-61853 | 2–3 | SOIL | 0.00115 (U) | 0.00213 (J) | 0.00115 (U) |
| RE39-23-270528 | 39-61853 | 4–5 | SOIL | 0.00113 (U) | 0.00149 (J) | 0.00113 (U) |
| RE39-23-270529 | 39-61854 | 0–1 | SOIL | 0.00119 (U) | 0.0327 | 0.0138 |
| RE39-23-270530 | 39-61854 | 2–3 | SOIL | 0.00582 (U) | 0.107 | 0.0488 |
| RE39-23-270531 | 39-61854 | 4–5 | SOIL | 0.00119 (U) | 0.0136 | 0.00678 |
| RE39-23-270532 | 39-61855 | 0–1 | SOIL | 0.0253 (U) | 0.772 | 0.354 |
| RE39-23-270533 | 39-61855 | 2–3 | SOIL | 0.00116 (U) | 0.0244 | 0.0119 |
| RE39-23-270534 | 39-61855 | 4–5 | SOIL | 0.00118 (U) | 0.0234 | 0.0102 |
| RE39-23-270535 | 39-61856 | 0–1 | SOIL | 0.00123 (U) | 0.00999 | 0.00518 |
| RE39-23-270536 | 39-61856 | 2–3 | SOIL | 0.00115 (U) | 0.00958 | 0.00407 |
| RE39-23-270537 | 39-61856 | 4–5 | SOIL | 0.00115 (U) | 0.00218 (J) | 0.00143 (J) |
| RE39-23-270538 | 39-61857 | 0–1 | SOIL | 0.00124 (U) | 0.0276 | 0.0102 |
| RE39-23-270539 | 39-61857 | 2–3 | SOIL | 0.00118 (U) | 0.00489 | 0.00206 (J) |
| RE39-23-270540 | 39-61857 | 4–5 | SOIL | 0.00117 (U) | 0.00184 (J) | 0.00117 (U) |

**Notes: Results are in mg/kg. Data qualifiers are defined below:**

(U) – The analyte was analyzed for but not detected.

(J) – The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis.

(J+) – The analyte was positively identified, and the result is likely to be biased high.

(J-) – The analyte was positively identified, and the result is likely to be biased low.

(UJ) – The analyte was not positively identified in the sample, and the associated value is an estimate of the sample- specific detection or quantitation limit.

**Table 14.0-2**

**PCB Bounding Sampling Locations and Depths for Excavation Area at SWMU 39-002(a), Area 2**

| **Sampling Objective – lateral and vertical extent of soil removal within SWMU 39-002(a), Area 2** | | | |
|---|---|---|---|
| **Sample ID** | **Location ID** | **Depth** | **Bounding Direction** |
| RE39-23-270509 | 39-61848 | 0–1 ft | North |
| RE39-23-270510 | 39-61848 | 2–3 ft | North |
| RE39-23-270511 | 39-61848 | 4–5 ft | North |
| RE39-23-270512 | 39-61848 | 6–7 ft | North |
| RE39-23-270513 | 39-61849 | 0–1 ft | South |
| RE39-23-270514 | 39-61849 | 2–3 ft | South |
| RE39-23-270515 | 39-61849 | 4–5 ft | South |
| RE39-23-270516 | 39-61849 | 6–7 ft | South |
| RE39-23-270497 | 39-61845 | 0–1 ft | East |
| RE39-23-270498 | 39-61845 | 2–3 ft | East |
| RE39-23-270499 | 39-61845 | 4–5 ft | East |
| RE39-23-270500 | 39-61845 | 6–7 ft | East |
| RE39-23-270501 | 39-61846 | 0–1 ft | West |
| RE39-23-270502 | 39-61846 | 2–3 ft | West |
| RE39-23-270503 | 39-61846 | 4–5 ft | West |
| RE39-23-270504 | 39-61846 | 6–7 ft | West |
| RE39-22-253804 | 39-61760 | 2–3 ft | Vertical – below excavation |
| RE39-22-253805 | 39-61760 | 4–5 ft | Vertical – below excavation |

**Table 14.0-3**

**Summary of Field Investigation Methods**

| Method | Summary |
|---|---|
| Spade and Scoop Collection of Soil Samples | This method was used to collect shallow (i.e., approximately 0 to12 in.) soil samples. The spade and scoop method involves digging a hole to a desired depth, as prescribed in the approved work plan, and collecting a discrete grab sample. Each sample was placed in a clean stainless-steel bowl for transfer into sterile sample containers. |
| Hand Auger Sampling | This method is typically used for sampling soil to depths of up to 10 to 15 ft. The method involves hand-turning a stainless-steel bucket auger (typically 3 to 4 in. inside diameter), creating a vertical hole that is advanced to the desired sampling depth. When the desired depth is reached, a sample is collected from that depth interval by transferring the sample material from the auger bucket to a clean stainless-steel sampling bowl for transfer into sterile sample containers. Clean auger buckets are used for each sample depth interval collected. |
| Headspace Vapor Screening | The individual soil samples were field screened for VOCs by placing a portion of the sample in a plastic sample bag or in a glass container with a foil-sealed cover. The container was sealed, gently shaken, and allowed to equilibrate for 5 minutes. The sample was then screened by inserting a PID probe into the container and measuring and recording any detected vapors. |
| Handling, Packaging, and Shipping of Samples | Sample containers were sealed, decontaminated, labeled, and field screened before packing them to ensure the sample containers and the containers used for transport were free of external contamination. All samples were packaged to minimize the possibility of breakage during transport to the SMO. All samples were preserved on ice and then transported to the SMO, who prepares the samples for shipment to an offsite analytical laboratory. |
| Sample Control and Field Documentation | The collection, screening, and transport of samples were documented on standard forms, SCL, sample containers labels, and COC forms. The SCLs were completed at the time of sample collection, and the SLs were signed by the sampler and a reviewer who verifies the SCLs for completeness and accuracy. Corresponding labels were applied to each sample container, and custody seals were placed around each sample container. SCLs and COCs were completed and signed to verify that samples were not left unattended. |
| Field Quality Control Samples | Field quality control samples were collected as follows:<br><br>Field duplicates: collected a frequency of one duplicate sample for every 10 samples.<br><br>Equipment rinsate blanks: collected from sampling equipment at a frequency of one rinsate sample for every 10 samples.<br><br>Trip blanks: collected at a frequency of one field trip blank per day when samples were collected for VOC analysis. |

| Method | Summary |
|---|---|
| Field Decontamination of Sampling Equipment | Dry decontamination was used as appropriate to minimize the generation of liquid waste. Dry decontamination included the use of a wire brush or other tool to remove soil adhering to the sampling equipment followed by used of a commercial cleaning agent (non-acid, waxless cleaner) and paper wipes. |
| Containers and Preservation of Samples | Specific requirements/processes for sample containers, preservation techniques, and holding times are based on EPA guidance for environmental sampling, preservation, and quality assurance. Specific requirements for each sample were printed on the SCL provided by the SMO, including the size and type of container (e.g., glass, amber glass, and polyethylene). All samples were preserved by placing them with ice in insulated containers to maintain a temperature of 4-degrees C. |
| Coordinating and Evaluating Geodetic Surveys | Geodetic surveys record survey data of acceptable quality to accurately document each sample location. The coordinate values are expressed in the New Mexico State Plane Coordinate System (transverse Mercator), Central Zone, North American Datum 1983. Elevations are reported as per the National Geodetic Vertical Datum of 1929. |
| Management of Investigation Derived Waste and Waste Characterization | All PCB remediation waste, including soils excavated under the PCB cleanup plan will be managed on-site in accordance with 40 CRF 761.40. Off-site disposal of all PCB wastes will be accomplished in accordance with applicable regulations. IDW will be managed, characterized, and stored in accordance with an approved WCSF that documented the site history, field activities, and characterization approach for each waste stream managed. Waste characterization complied with on- or off-site waste acceptance criteria. All stored IDW was marked with appropriate signage and labels. Drummed IDW was stored on pallets to prevent deterioration of containers. A waste storage area was established before waste was generated. Waste storage areas were located in controlled areas of the Laboratory to prevent unauthorized personnel from inadvertently adding or managing wastes. Each container of waste generated was individually labeled with waste classification, item identification number, and radioactivity (if applicable), immediately following containerization. All waste was segregated by classification and compatibility to prevent cross-contamination. |

**Table 14.0-4**

**SOPs Used for Investigation Activities at SWMU 39-002(a), Area 2 at North Ancho Canyon Aggregate Area**

| POLICY OR PROCEDURE NUMBER | TITLE |
|---|---|
| N3B-AP-ER-1002 | Environmental Remediation Field Work Requirements |
| N3B-SOP-SDM-1101 | Sample Control and Field Documentation |
| N3B-SOP-SDM-1102 | Sample Receiving and Shipping by the N3B Sample Management Office |
| N3B-SOP-SDM-1100 | Sample Containers, Preservation and Field Quality Control |
| N3B-P101-6 | Personal Protective Equipment |
| N3B-P101-17 | Excavation/ Fill/Soil Disturbance |
| N3B-P151-1 | N3B Packaging and Transportation Program Procedure |
| N3B-P409 | N3B Waste Management |
| N3B-SOP-ER-2001 | Soil, Tuff, and Sediment Sampling |
| N3B-SOP-ER-2002 | Field Decontamination of Equipment |

**Table 14.0-5**

**Lateral and Vertical Extent Samples for PCBs for SWMU 39-002(a), Area 2**

| Sample ID | Location ID | Depth | Analytical Suite - PCBs |
|---|---|---|---|
| RE39-23-270509 | 39-61848 | 0–1 ft | X |
| RE39-23-270510 | 39-61848 | 2–3 ft | X |
| RE39-23-270511 | 39-61848 | 4–5 ft | X |
| RE39-23-270512 | 39-61848 | 6–7 ft | X |
| RE39-23-270513 | 39-61849 | 0–1 ft | X |
| RE39-23-270514 | 39-61849 | 2–3 ft | X |
| RE39-23-270515 | 39-61849 | 4–5 ft | X |
| RE39-23-270516 | 39-61849 | 6–7 ft | X |
| RE39-23-270497 | 39-61845 | 0–1 ft | X |
| RE39-23-270498 | 39-61845 | 2–3 ft | X |
| RE39-23-270499 | 39-61845 | 4–5 ft | X |
| RE39-23-270500 | 39-61845 | 6–7 ft | X |
| RE39-23-270501 | 39-61846 | 0–1 ft | X |
| RE39-23-270502 | 39-61846 | 2–3 ft | X |
| RE39-23-270503 | 39-61846 | 4–5 ft | X |
| RE39-23-270504 | 39-61846 | 6–7 ft | X |
| RE39-22-253804 | 39-61760 | 2–3 ft | X |
| RE39-22-253805 | 39-61760 | 4–5 ft | X |