ESHID-602486

# Sampling Implementation Plan Process Overview and Update

## Process Improvements for Individual Permit Sampling Locations

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NNSA National Nuclear Security Administration

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# Sampling Implementation Plan (SIP) Process: Background

- Implemented per the draft language in EPA's March 2014 draft IP. This language was agreed upon by the Permittees and NMED-SWQB.
- Developed jointly by the Permittees and NMED-SWQB.
- Evaluates existing storm water and sediment data for each SMA/Site combination (453 total combinations) to
  1. Evaluate storm water monitoring list
  2. Evaluate storm water monitoring locations

# Draft SIP Documentation for Review

- Per the IP, monitor runoff from regulated Sites made up of solid waste management units (SWMU) and areas of concern (AOC)
- Review Site histories to determine Site-related potential pollutants of concern
  - –historical information
  - –environmental investigation reports
  - –soil and storm water sampling data
    - ➢Compare soil/sediment potential pollutant of concern concentrations to background values to determine if the area has been potentially impacted by associated or proximal SWMUs/AOCs

# Example of Documentation: Historical Memorandum

103105

**MEMORANDUM**

ERM/GOLDER Los Alamos Project Team

**To:** EC Project File - SWMU 3-056(c)

**From:** Val Rhodes

**Date:** 29 May 1995

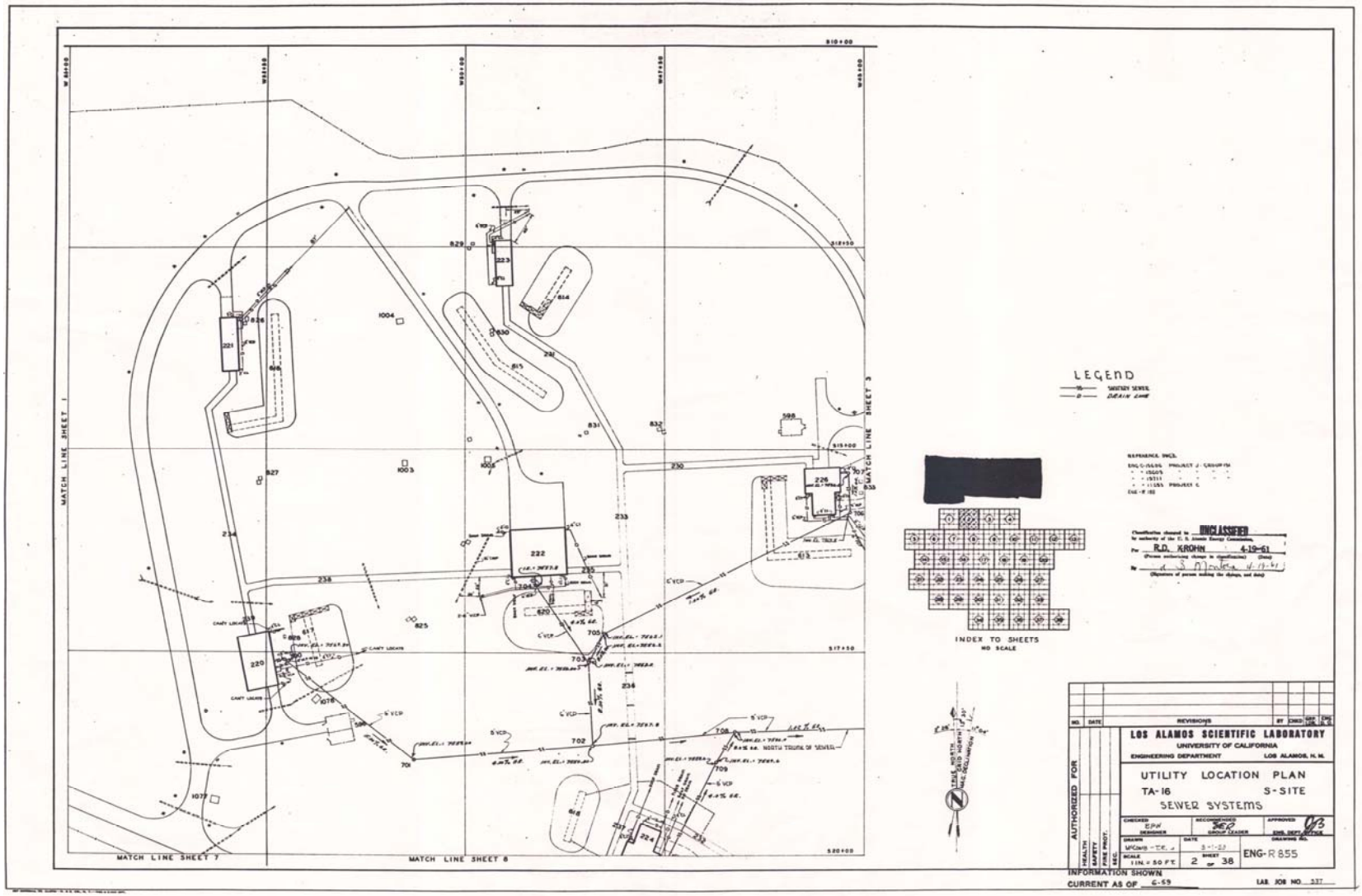
**Regarding:** **OPERATING HISTORY OF STORAGE AREA SWMU 3-056(C)**

This memo outlines the some of the operating history of storage area SWMU 3-056(c) through three interviews with JCI electrical equipment personnel at TA-3-223.

On 17 May 1995, Derek Faulk and I met with Jim Speight. Mr. Speight has worked at TA-3-223 for approximately 14 years (since 1981); he provided the following information:

- The storage area (SWMU 3-056(c)) was located near a corner of the north fence and was used to store small electrical equipment, new and used dielectric fluids, and waste solvent(s). The site was used from the late-1960s(when TA-3-223 was built) to sometime in 1992. Drums of dielectric fluids are currently stored on pallets within a containment building located northeast of TA-3-223. There are no records of documented spills of either dielectric fluids or solvents.

# Example of Documentation: Engineering Drawings



# Soil/Sediment Investigation Results Review

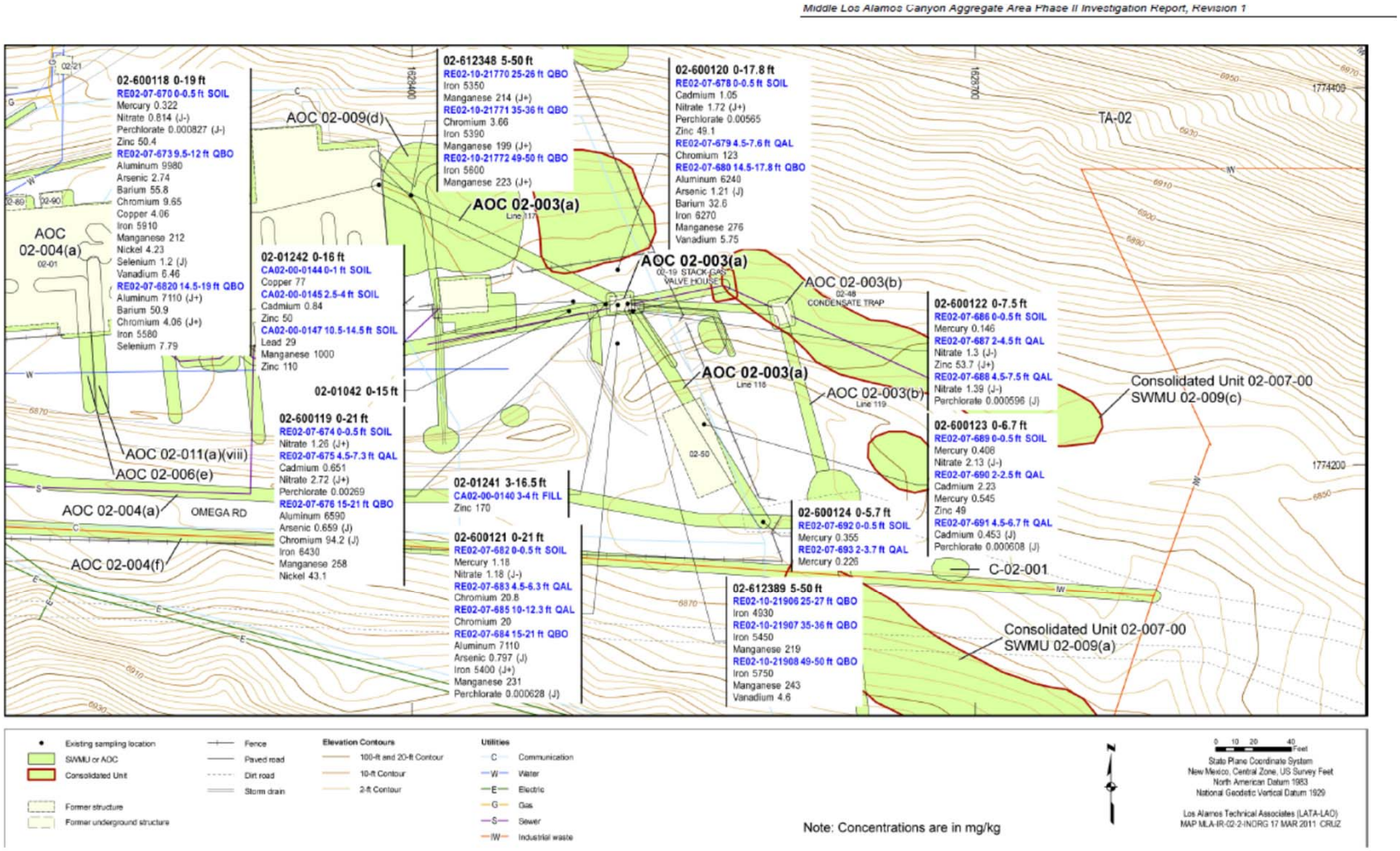



Figure 6.2-2 Inorganic chemicals detected or detected above BVs at AOC 02-003(a)

# Revise Draft SIP Documentation Based on Comments

- Potential pollutants may need to be added to the sampling suite required by the IP.
  - For example, sites where high explosives were detonated in the past, based on historical documentation and/or soil data, will include analysis of high explosives in water sampling suite.

# Investigation Report Documentation

*Twomile Canyon Aggregate Area Investigation Work Plan, Revision 1*

### 4.4.2 SWMU 22-014(a), Sump System

#### 4.4.2.1 Description and History

SWMU 22-014(a) consists of an active HE sump system and associated inactive drainline and seepage pit. The sump system is located immediately south of building 22-0093 (Figure 4.4-5). The sump is constructed of concrete containing an inset aluminum tank and is approximately 4 ft deep × 9 ft long × 3 ft wide. The sump system has been operating since 1985 and receives rinse water from a washing facility for parts and clothing from explosives compacting operations in rooms C112 and C114 in building 22-0093 (LANL 1993, 007512). Before 1995, the sump discharged approximately 100 gal. of wastewater each week through a drainline to a seepage pit located 150 ft south of the sump in the upper part of Tributary B of Twomile Canyon. The seepage pit is 4 ft in diameter and 36 ft deep (LANL 1985, 109184).

# Example: Modification of Sampling Suites 2M-SMA-1.43



APPENDIX B
SITE MONITORING REQUIREMENTS

| SMA Number | Site Number | Radioactivity | Cyanide | Metals | PCBs | High Explosive | Others |
|---|---|---|---|---|---|---|---|
| T-SMA-4 | 35-004(a) | Alpha & Ra | Cyanide | All | | | |
| | 35-009(a) | Alpha & Ra | Cyanide | All | | | |
| | 35-016(c) | Alpha & Ra | Cyanide | All | | | |
| | 35-016(d) | Alpha & Ra | Cyanide | All | | | |
| T-SMA-5 | 35-004(a) | Alpha & Ra | Cyanide | All | | | |
| | 35-009(a) | Alpha & Ra | Cyanide | All | | | |
| | 35-016(a) | Alpha & Ra | Cyanide | All | | | |
| | 35-016(q) | Alpha & Ra | Cyanide | All | | | |
| T-SMA-6.8 | 35-010(e) | Alpha & Ra | Cyanide | All | | | |
| T-SMA-7 | 04-003(b) | Alpha & Ra | Cyanide | All | | | |
| T-SMA-7.1 | 04-001 | Alpha & Ra | Cyanide | All | | | |
| | 04-002 | Alpha & Ra | Cyanide | All | | | |
| 2M-SMA-1 | 03-010(a) | Alpha & Ra | Cyanide | All | | | |
| 2M-SMA-1.42 | 06-001(a) | Alpha & Ra | Cyanide | All | | | |
| 2M-SMA-1.43 | 22-014(a) | Alpha & Ra | Cyanide | All | | | |
| | 22-015(a) | Alpha & Ra | Cyanide | All | | | |

# Conduct SMA/Site Field Visit to Determine Best Monitoring Location

- Field visits can provide a perspective of the Site that is different from what is gained by examining documentation alone.

➢For example, it may be determined that the sampler needs to be moved slightly to have the best chance of collecting a sample.

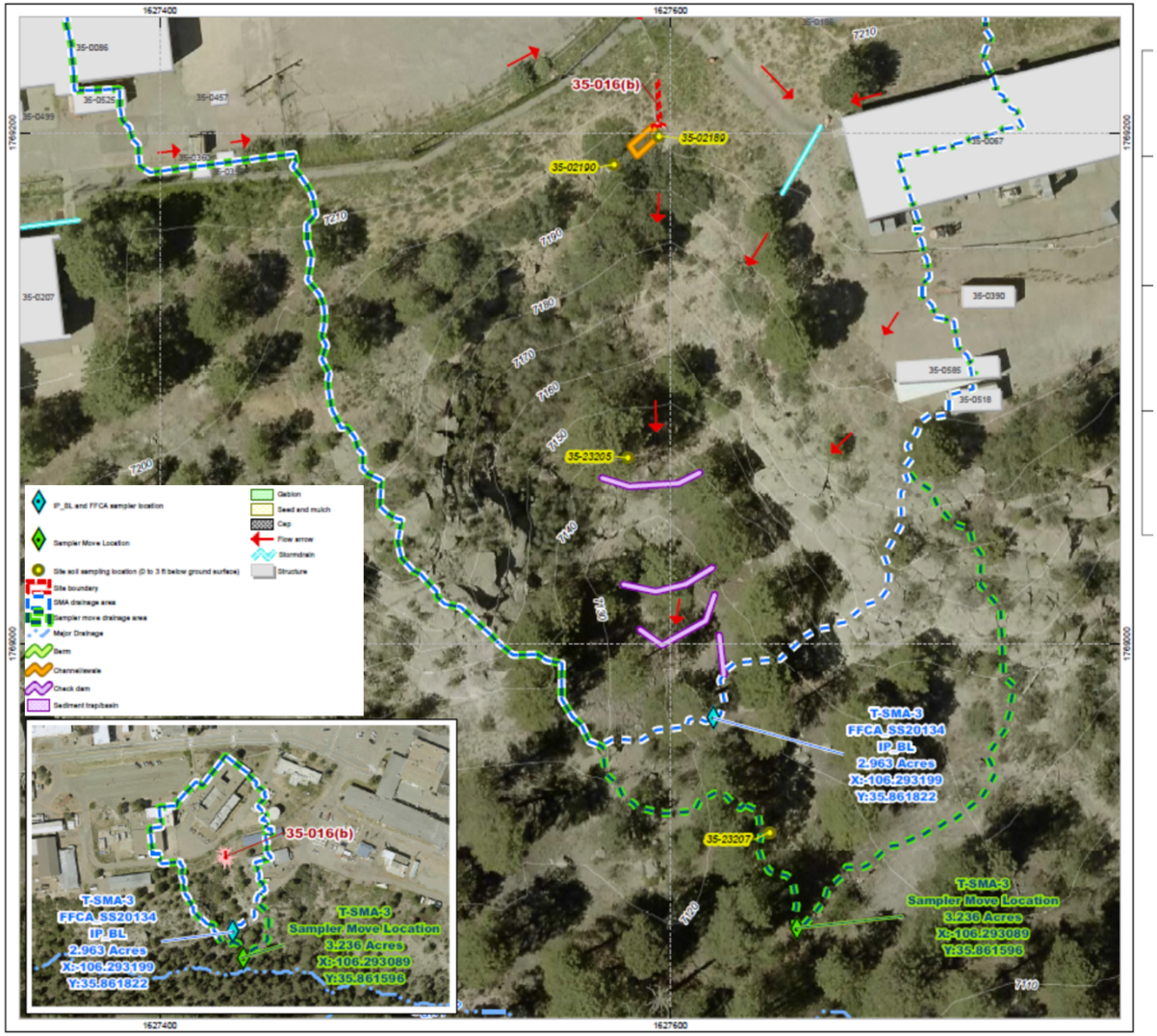
Field visits include LANS, NMED, and attendees may include EPA, NMED-DOE-OB, and DOE.

# SMA Field Visit

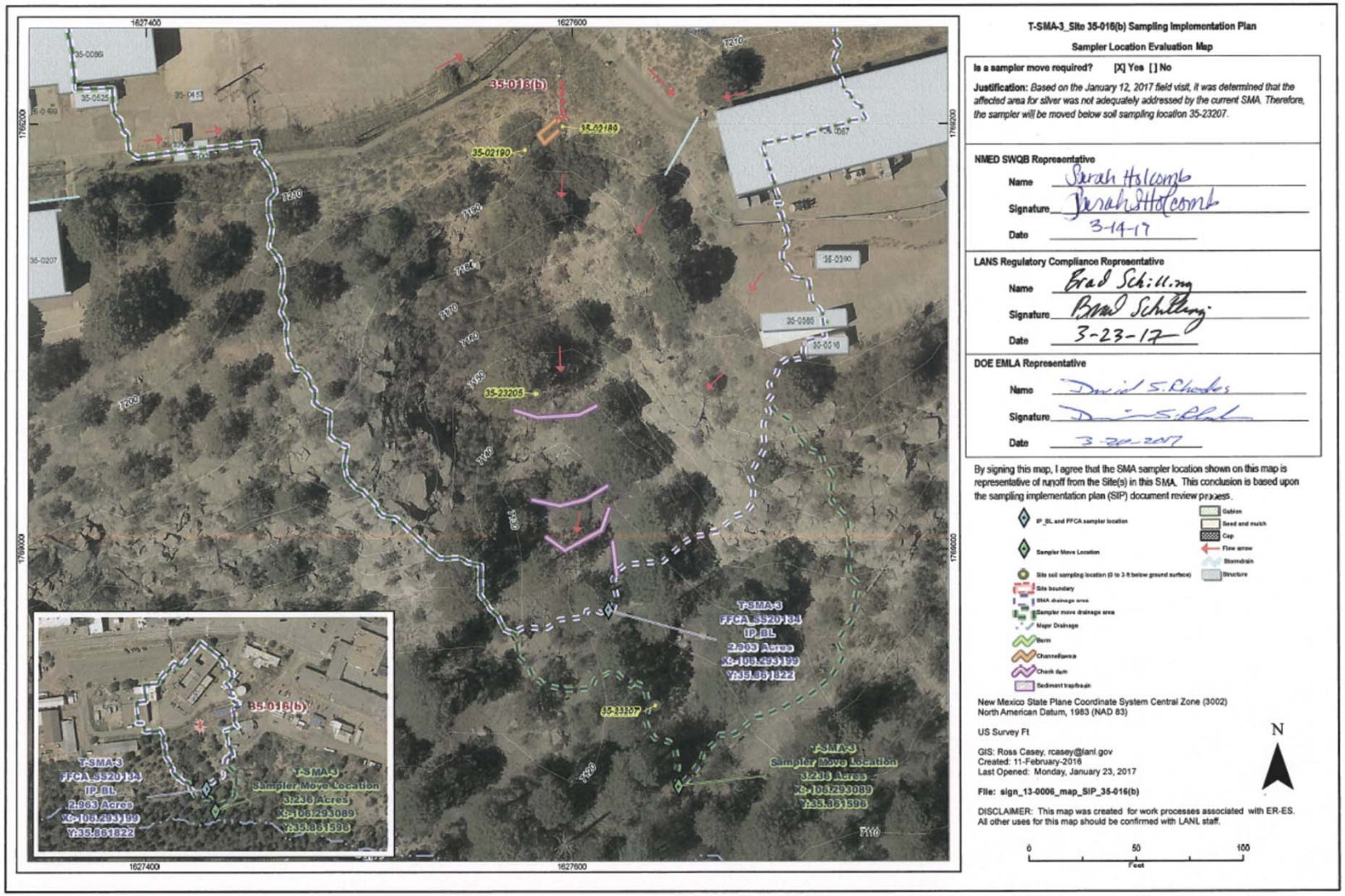
# Conduct SMA/Site Field Visit to Determine Best Monitoring Location

- Examine Consent Order soil/sediment data at SWMUs/AOCs to evaluate the current monitoring location.
- Examine engineering drawings and physical evidence found during field visits to confirm efficacy of sampling location.

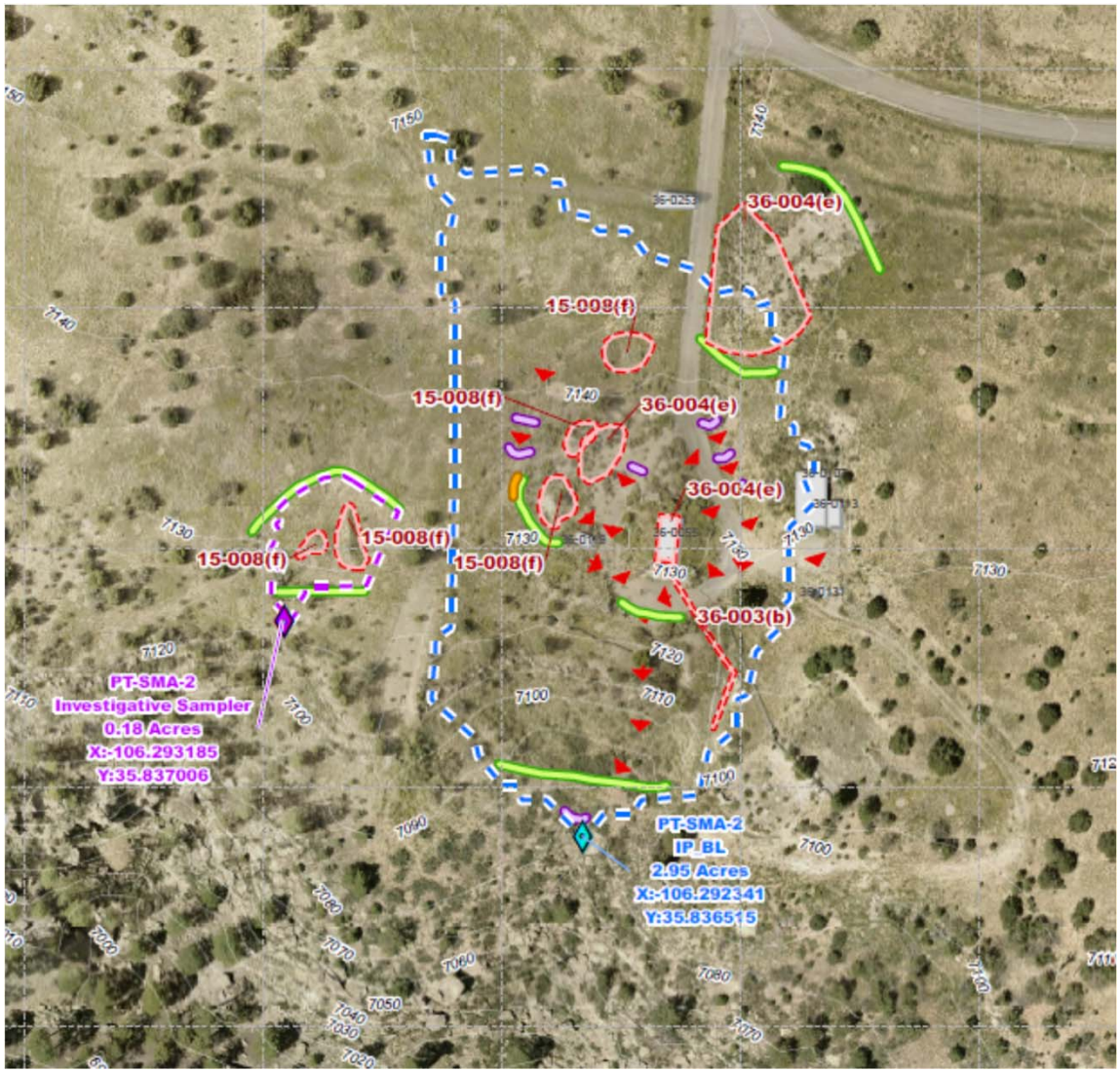
# Continue Sampling at Current Location or Move Monitoring Location



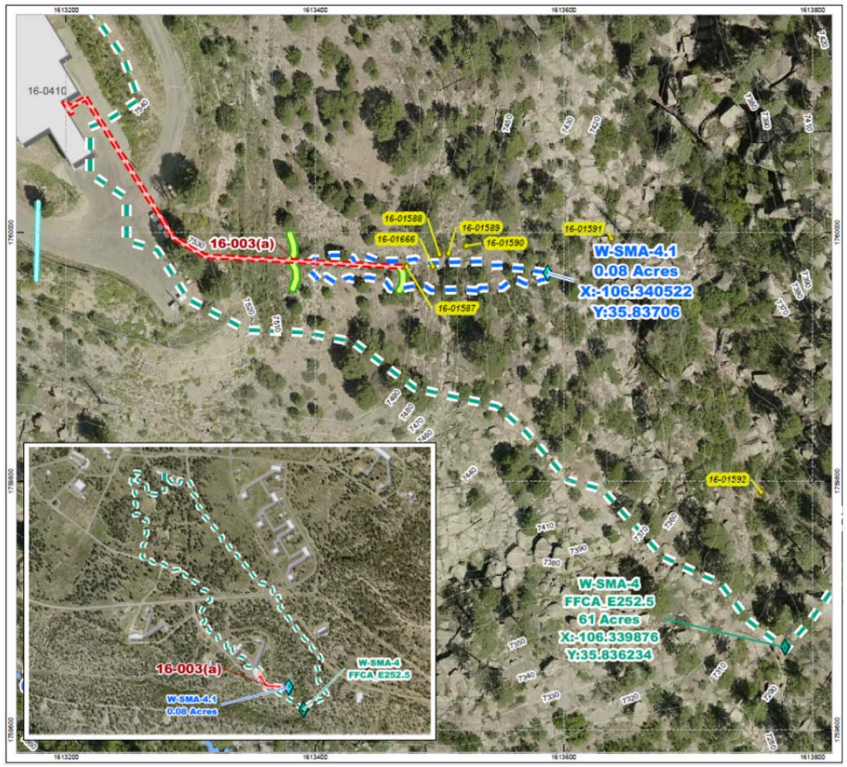
# Maps signed by LANS, NMED, and DOE

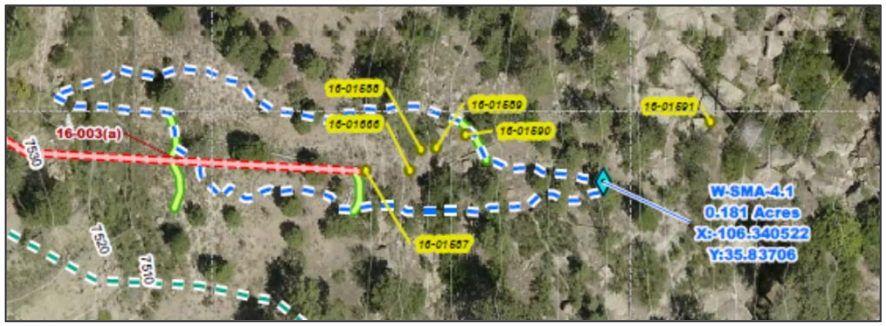


# Conduct Investigative Monitoring as Necessary



# Example of Additional Controls




Soil data: Elevated above background concentrations of zinc at soil locations 16-01588, 16-01589, and 16-01590.

# Current and Future Work

**To date, LANL has completed 214 Site/SMA combination site visits.**

**As a result, we have:**

- Over 85% of current monitoring locations have been determined to be representative of Site discharge.
- Moved 25 samplers: monitoring at new locations will begin this season.
- Installed 18 investigative samplers: monitoring at investigative locations will begin this season.
- Constructed additional controls at 4 Sites: additional controls are planned for another 4 or 5 Sites.

- Approximately 240 more SMA/Site visits are planned, and field visits will continue until all SMA/Site combinations have been reviewed.
- SIP documentation will be finalized and published after the new IP is issued.

- **Questions?**