



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ENVIRONMENTAL
MANAGEMENT



Individual Permit Corrective Actions Update

March 5, 2025

Grayson Vogel



ENVIRONMENTAL MANAGEMENT
SAFETY ♦ PERFORMANCE ♦ CLEANUP ♦ CLOSURE

N3B Los
Alamos



Presentation Outline

- Acronyms
- Individual Permit NM0030759 Corrective Actions
- Corrective Actions Completed in 2024
- Corrective Actions Scheduled for Completion in 2025
- 3-year, 24-hour Retention Certifications Scheduled for 2025
- Corrective Actions Planned for 2026 through 2028





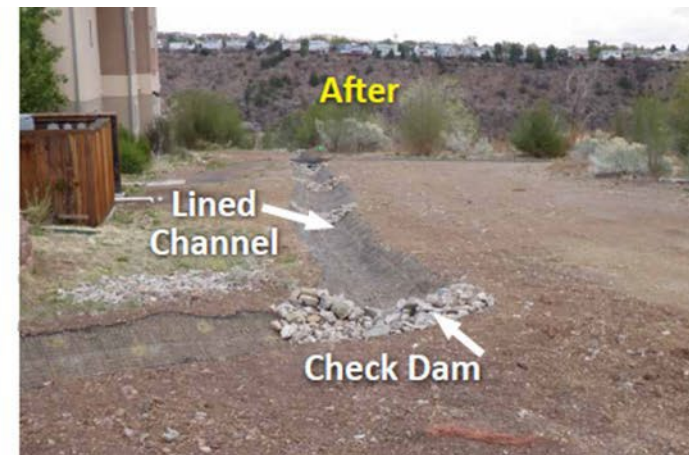
Acronyms

- 2M – Twomile Canyon
- 3M – Threemile Canyon
- A – Ancho Canyon
- Acid – Acid Canyon
- AOC – Area of Concern
- B – Bayo Canyon
- BTV – Background Threshold Value
- CDB – Cañada del Buey
- CDV – Cañon de Valle
- CHQ – Chaquehui Canyon
- DP – DP Canyon
- IP – Individual Permit
- LA – Los Alamos Canyon
- LANL – Los Alamos National Laboratory
- M – Mortandad Canyon
- NPDES – National Pollutant Discharge Elimination System
- P – Pueblo Canyon
- PCB – Polychlorinated biphenyl
- POC – Pollutant of Concern
- PJ – Pajarito Canyon
- PT – Potrillo Canyon
- R – Rendija Canyon
- S – Sandia Canyon
- SMA – Site Monitoring Area
- STRM - Starmers Gulch
- SWMU – Solid Waste Management Unit
- T – Ten Site Canyon
- TA – Technical Area
- TAL – Target Action Level
- W – Water Canyon



Individual Permit (IP) effective date: August 1, 2022

- The IP requires storm water discharge monitoring of Solid Waste Management Units (SWMUs), and Areas of Concern (AOCs) associated with historical industrial activities at Los Alamos National Laboratory (LANL). Examples of monitored SWMUs and AOCs (or Sites) include drain outfalls, septic systems, firing sites, and landfills.
- Corrective action is required once a permit Target Action Level (TAL) and Background Threshold Value (BTV) have been exceeded for a Site-related Pollutant of Concern (POC) in a storm water sample. Examples of POCs include copper, aluminum, polychlorinated biphenyls (PCBs), and silver.



Installation of storm water controls as a corrective action at P-SMA-2.2 in 2011



Individual Permit NM0030759

Corrective Actions

Options for implementing corrective action are:

Installation of Enhanced Controls – Enhanced controls are designed to reduce storm water run-on or runoff from the Site, mitigate erosion within the Site, or capture sediment/POCs on the Site. Examples include diversion berms, sediment basins, rock check dams, coir logs, compost logs, and established vegetation.

Eliminate Exposure of POCs to Storm Water – No exposure can be (a) a cap or engineered cover, or (b) soil removal. Examples include shotcrete and rock caps.

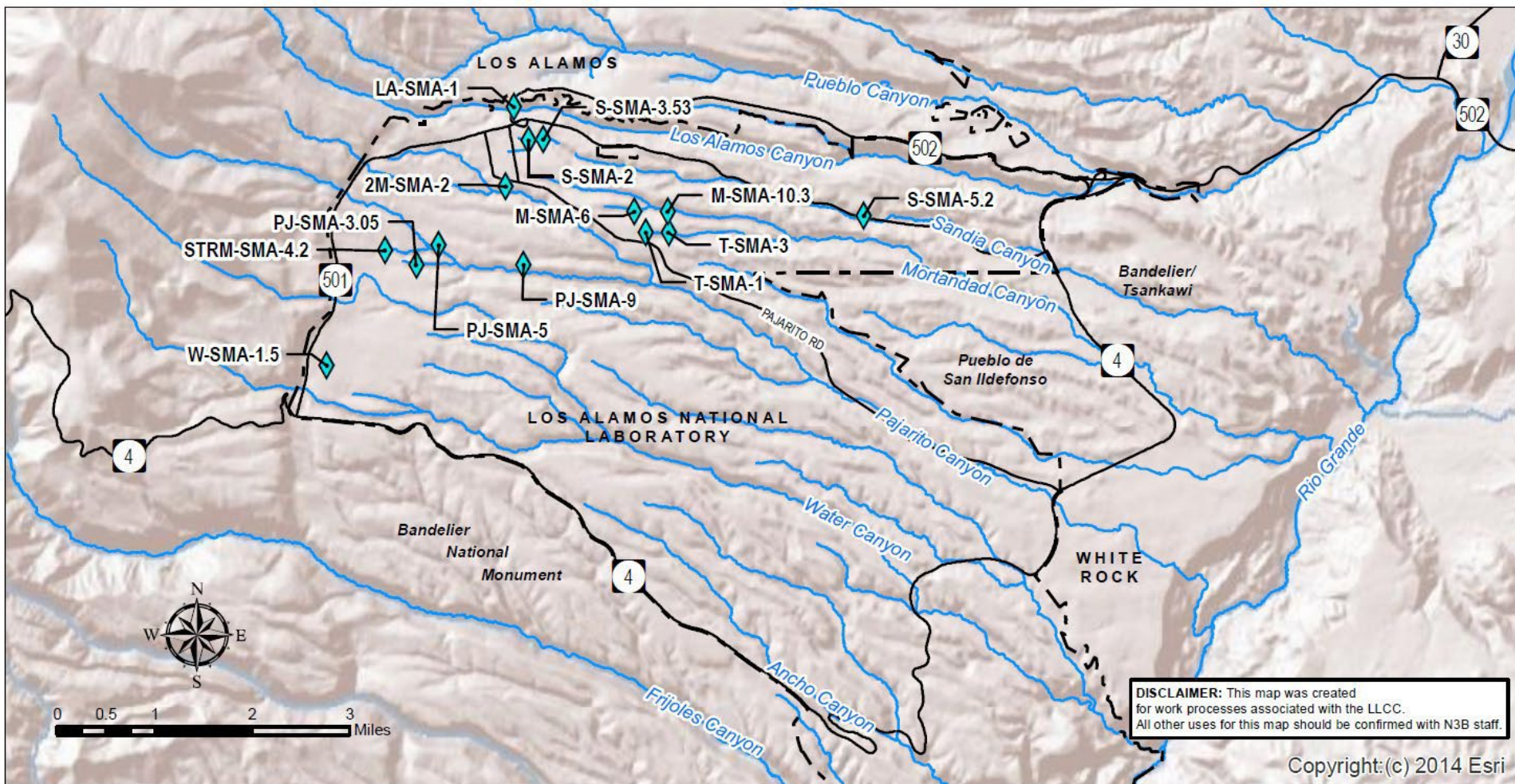
Retention of 3-Year, 24-Hour Storm Runoff Volume – 3-year, 24-hour retention can be achieved by retaining the volume of storm water runoff from a Site or Site Monitoring Area (SMA) that is equivalent to a 3-year, 24-hour storm event. Examples include a retention berm or retention basin.

If enhanced controls are installed, the site is then monitored to assess the effectiveness of those controls; additional corrective actions are implemented as required based on subsequent sample results.





Corrective Actions Completed in 2024 – 14 SMAs



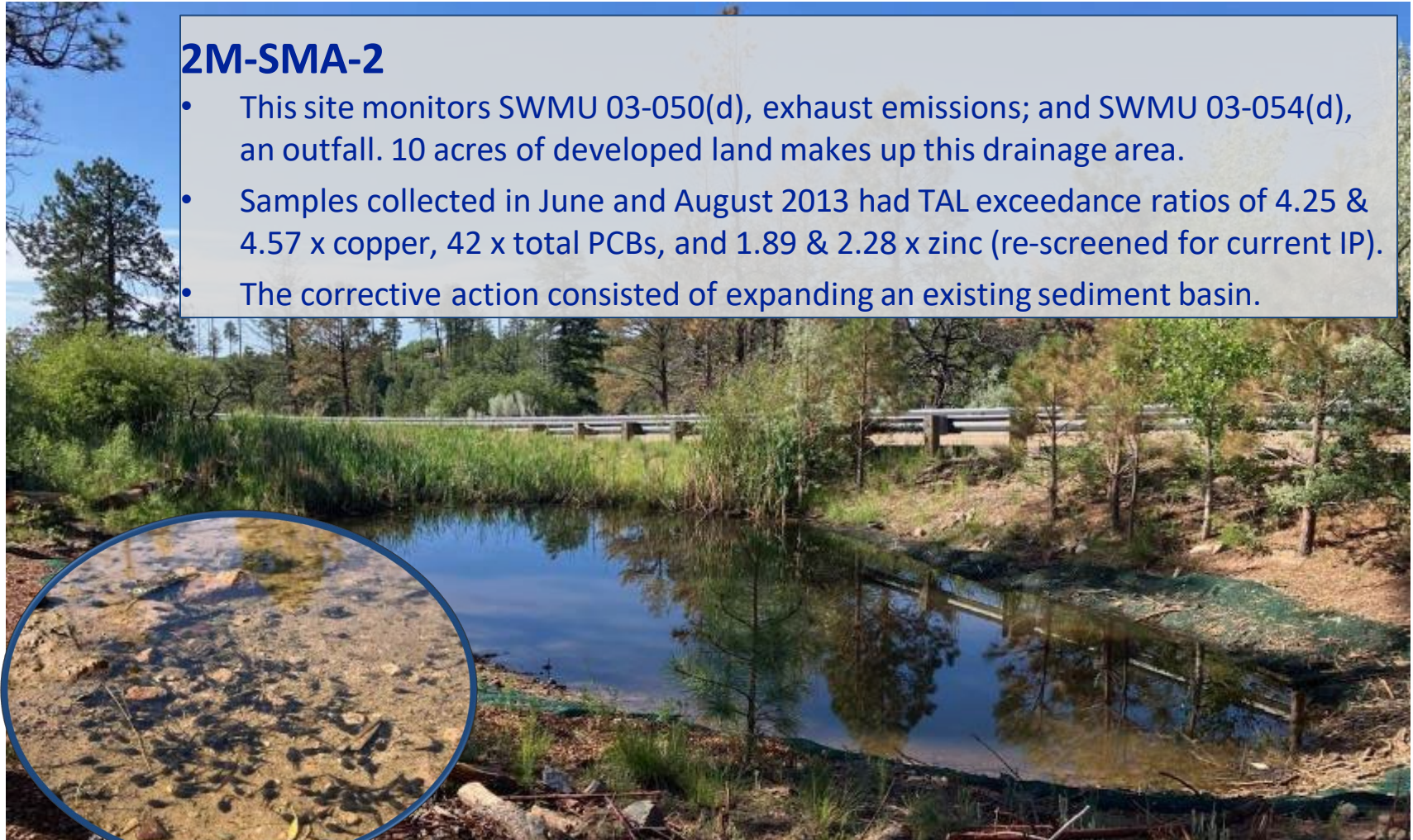
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Corrective Actions Completed in 2024

2M-SMA-2

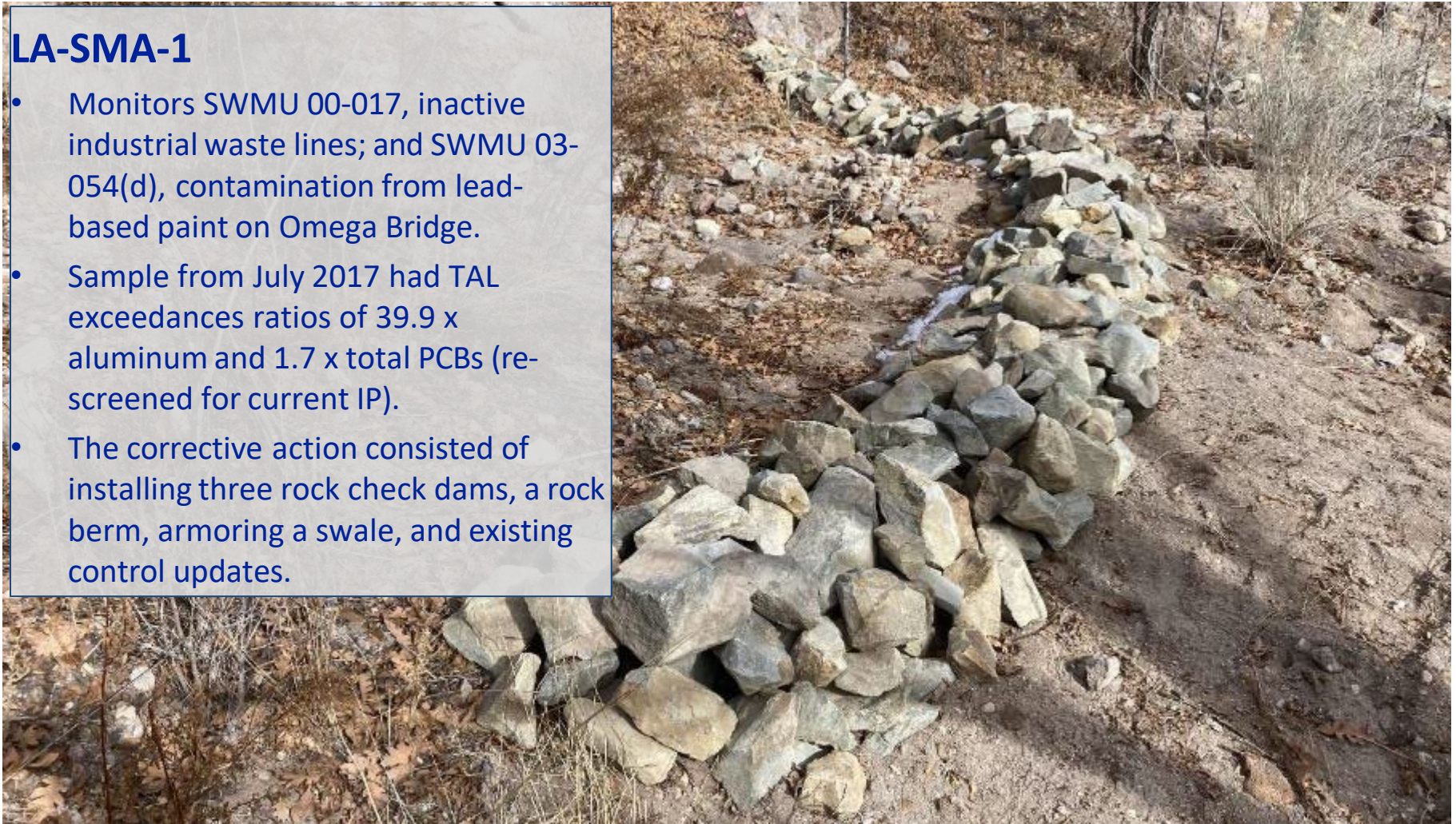
- This site monitors SWMU 03-050(d), exhaust emissions; and SWMU 03-054(d), an outfall. 10 acres of developed land makes up this drainage area.
- Samples collected in June and August 2013 had TAL exceedance ratios of 4.25 & 4.57 x copper, 42 x total PCBs, and 1.89 & 2.28 x zinc (re-screened for current IP).
- The corrective action consisted of expanding an existing sediment basin.



Sediment basin E01205020016 at 2M-SMA-2. Tadpoles in basin observed summer 2024 (inset) .

LA-SMA-1

- Monitors SWMU 00-017, inactive industrial waste lines; and SWMU 03-054(d), contamination from lead-based paint on Omega Bridge.
- Sample from July 2017 had TAL exceedances ratios of 39.9 x aluminum and 1.7 x total PCBs (re-screened for current IP).
- The corrective action consisted of installing three rock check dams, a rock berm, armoring a swale, and existing control updates.



Rock berm L00303120032 at LA-SMA-1.



Corrective Actions Completed in 2024



Coir logs M00803140051 and M00803140052, rock berm M00803140031, and sampler at M-SMA-6.



Corrective Actions Completed in 2024



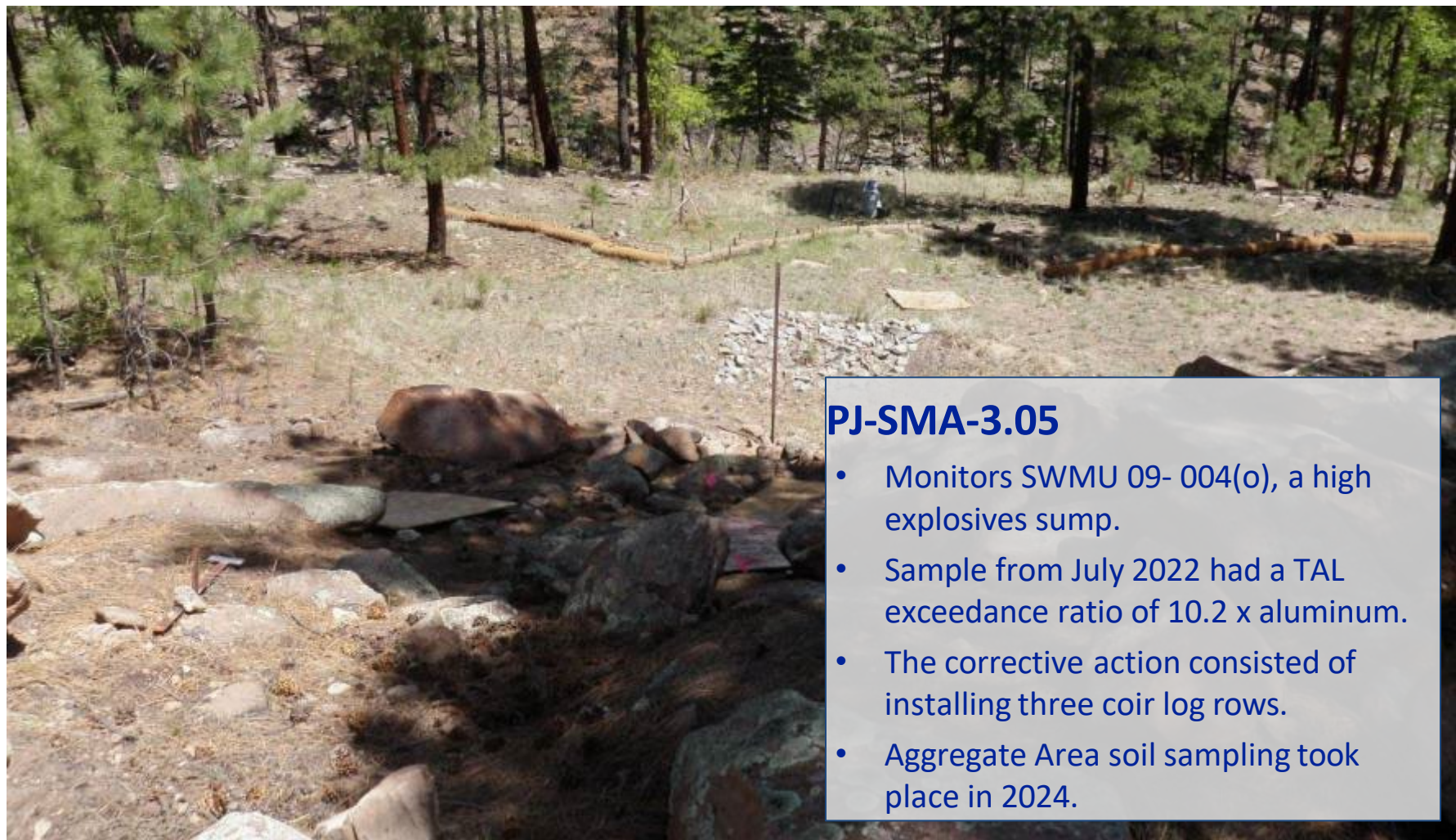
M-SMA-10.3

- Monitors AOC 35-014(e2), an oil spill; and SWMU 35-016(i), a stormwater outfall.
- Sample from July 2012 had a TAL exceedance ratio of 3.3 x aluminum (re-screened for current IP).
- The corrective action consisted of installing four coir log rows and gravel bags.

Rock check dam M01306010017 and coir log M01306010023 at M-SMA-10.3.



Corrective Actions Completed in 2024



PJ-SMA-3.05

- Monitors SWMU 09- 004(o), a high explosives sump.
- Sample from July 2022 had a TAL exceedance ratio of 10.2 x aluminum.
- The corrective action consisted of installing three coir log rows.
- Aggregate Area soil sampling took place in 2024.

Earthen berm with riprap spillway J00303140011, and multiple coir and compost logs in background at PJ-SMA-3.05.



PJ-SMA-5

- Monitors SWMU 22-015(c), a former NPDES outfall.
- Samples from May 2021 and July 2022 had TAL exceedance ratios of 126 & 32 x copper.
- The corrective action consisted of installing three compost log rows and a base course diversion berm.
- 2016 Compliance Order on Consent soil sampling took place in 2024.



Rock check dam J00506010024, compost log J00506010028, and sampler at PJ-SMA-5.



Corrective Actions Completed in 2024

PJ-SMA-9

- Monitors SWMU 40-009, a surface disposal area.
- Samples from July 2021 and July 2022 had TAL exceedance ratios of 8.5 & 11.0 x copper.
- The corrective action consisted of installing one row of coir logs, two rows of compost logs, and two rock check dams.



Rock check dam J01006010027 and sampler at PJ-SMA-9.02.





S-SMA-2

- Monitors SWMU 03-012(b) & SWMU 03-045(b), cooling tower soil contamination; SWMU 03-045(c) NPDES outfall; and SWMU 03-056(c), a former outdoor transformer storage area.
- Samples from July and August 2013 had a TAL exceedance ratio of 160 x total PCBs (re-screened for current IP).
- The corrective action consisted of installing a shotcrete cap.

Shotcrete cap S00308060028 at S-SMA-2.

Corrective Actions Completed in 2024

S-SMA-3.53

- Monitors AOC 03-014(b2), a former wastewater treatment plant NPDES outfall.
- Sample from July 2014 had TAL exceedance ratios of 7.4 x copper and 160 x total PCBs (re- screened for current IP).
- The corrective action consisted of installing a shotcrete cap.



Shotcrete cap S005B08030008 at S-SMA-3.53.

S-SMA-5.2

- Monitors AOC 20- 003(c), a former gun mount.
- Sample from July 2019 had a TAL exceedance ratio of 190 x hexachlorobenzene (re-screened for current IP).
- The corrective action consisted of installing three rows of coir logs and two rock check dams.



Coir log S01403140024 and rock berm S01403140017 at S-SMA-5.02.



Corrective Actions Completed in 2024

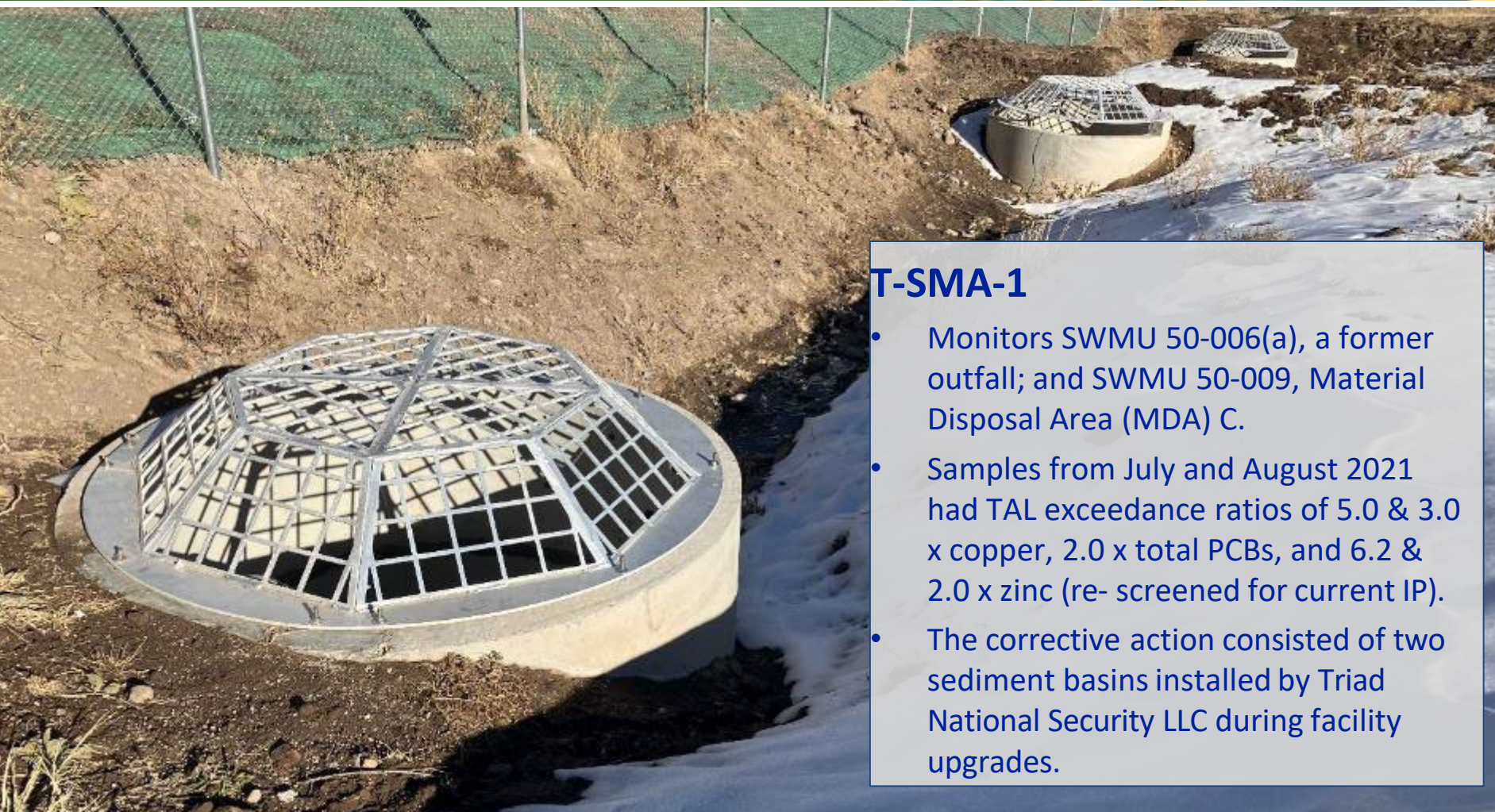
STRM-SMA-4.2

- Monitors SWMU 09- 008(b), a decommissioned oxidation pond.
- Samples from July 2021 and July 2022 had TAL exceedance ratios of 1.1 & 1.38 x silver and 1.05 & 1.07 copper.
- The corrective action consisted of installing two rows of compost logs and a brush berm.

Log berm J03003030015 at STRM-SMA-4.2.



Corrective Actions Completed in 2024



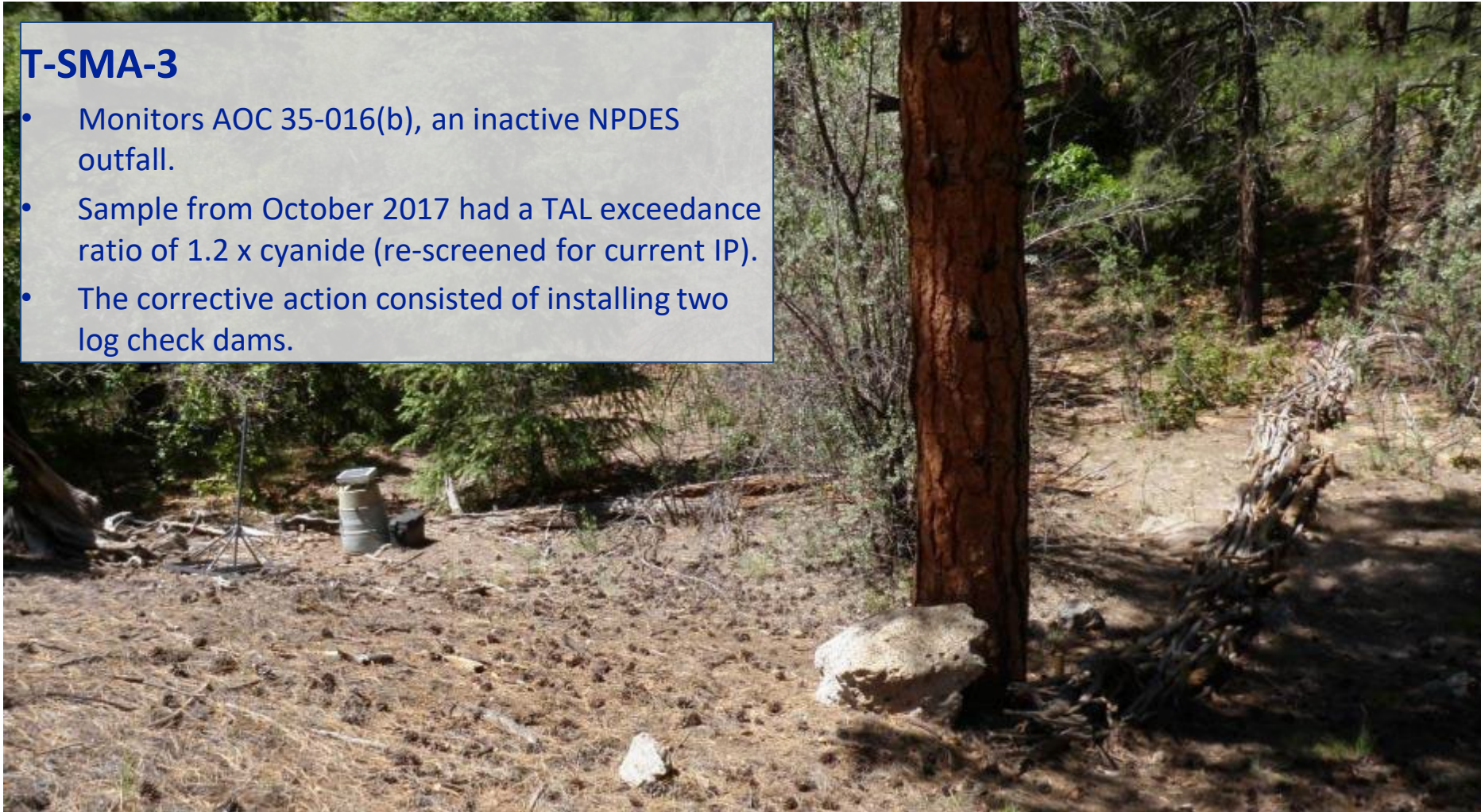
T-SMA-1

- Monitors SWMU 50-006(a), a former outfall; and SWMU 50-009, Material Disposal Area (MDA) C.
- Samples from July and August 2021 had TAL exceedance ratios of 5.0 & 3.0 x copper, 2.0 x total PCBs, and 6.2 & 2.0 x zinc (re- screened for current IP).
- The corrective action consisted of two sediment basins installed by Triad National Security LLC during facility upgrades.

Sediment basins T00205020029 and T00205020030 at T-SMA-1.

T-SMA-3

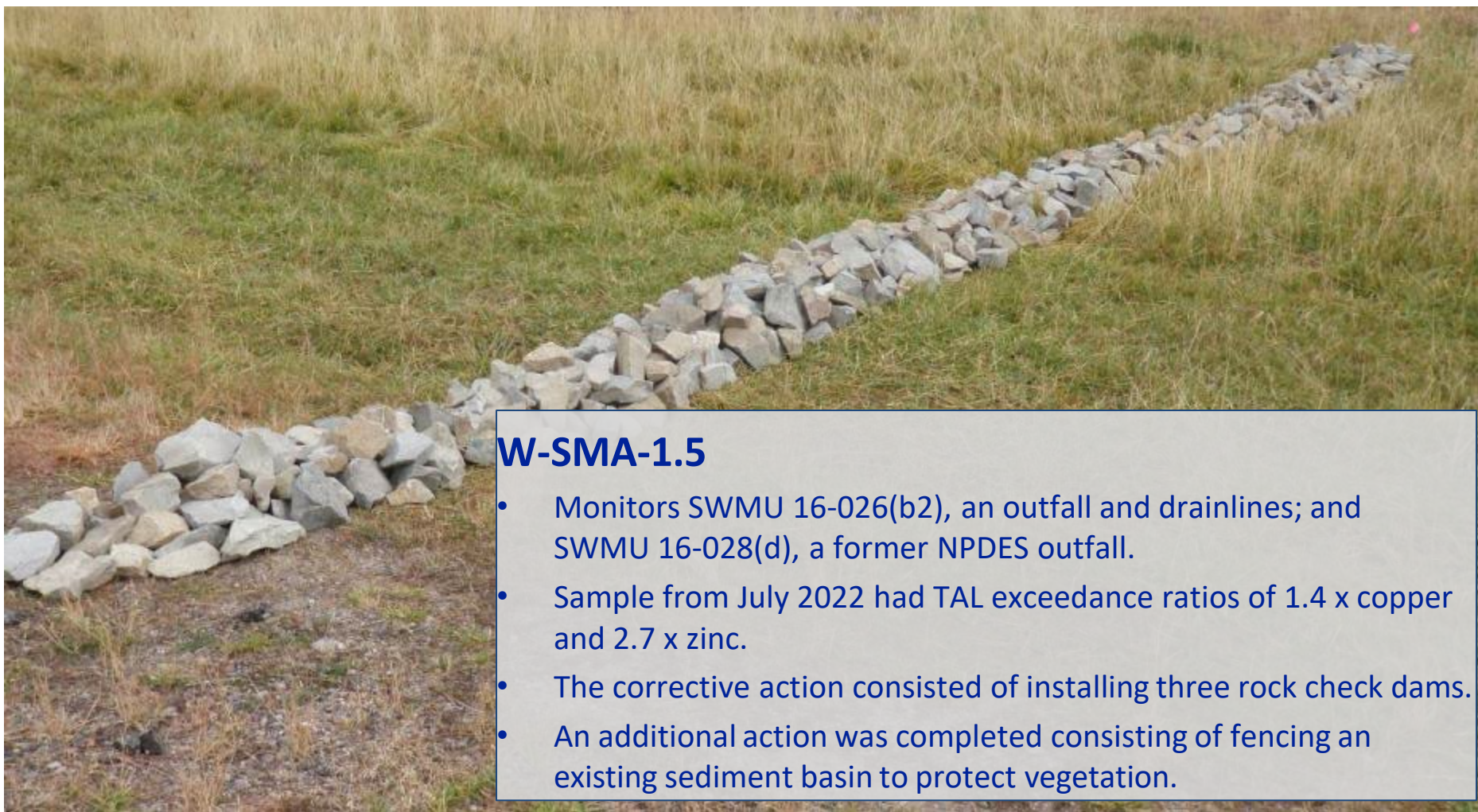
- Monitors AOC 35-016(b), an inactive NPDES outfall.
- Sample from October 2017 had a TAL exceedance ratio of 1.2 x cyanide (re-screened for current IP).
- The corrective action consisted of installing two log check dams.



Sampler and log check dam T00506020015 at T-SMA-3.



Corrective Actions Completed in 2024



W-SMA-1.5

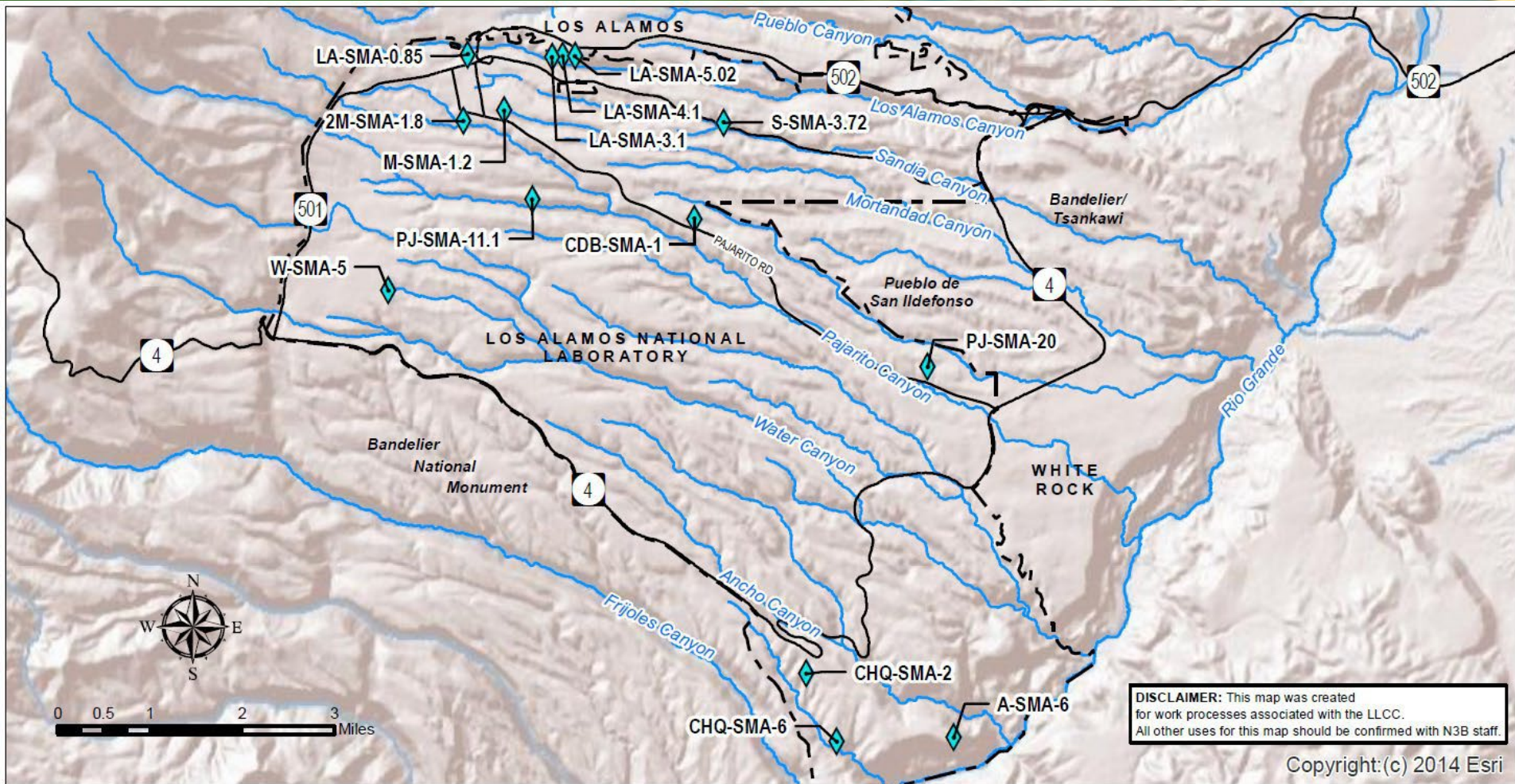
- Monitors SWMU 16-026(b2), an outfall and drainlines; and SWMU 16-028(d), a former NPDES outfall.
- Sample from July 2022 had TAL exceedance ratios of 1.4 x copper and 2.7 x zinc.
- The corrective action consisted of installing three rock check dams.
- An additional action was completed consisting of fencing an existing sediment basin to protect vegetation.

Rock check dam W00206010026 at W-SMA-1.5.





Corrective Actions Scheduled for Completion in 2025 – 15 SMAs

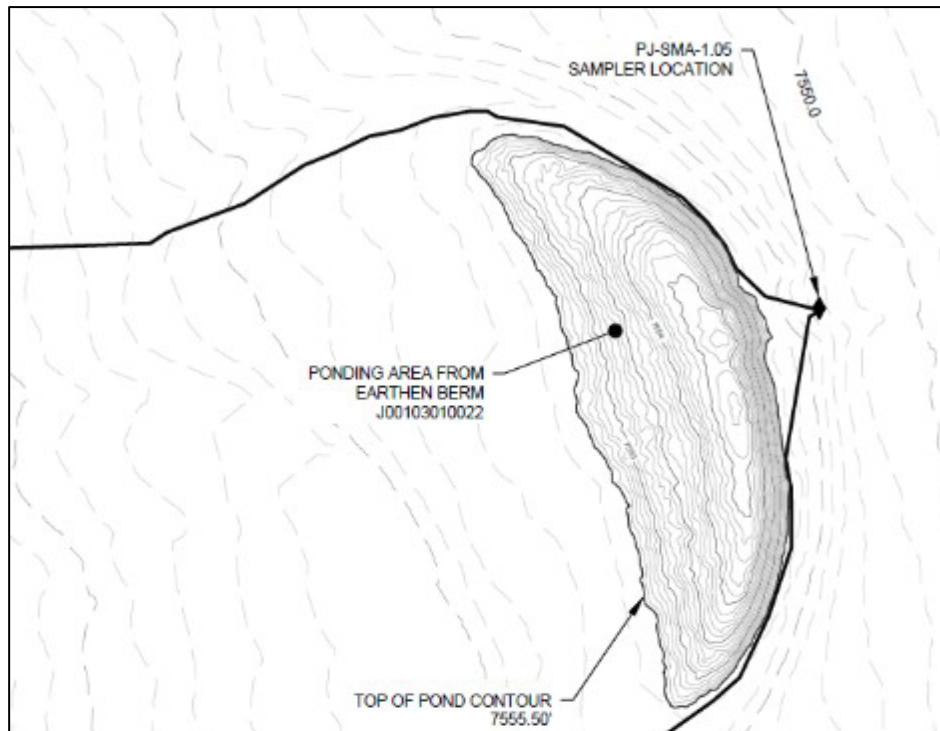


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3-year, 24-hour Retention Certifications Scheduled for 2025 – PJ-SMA-1.05, S-SMA-3.51, and STRM-SMA-5.05



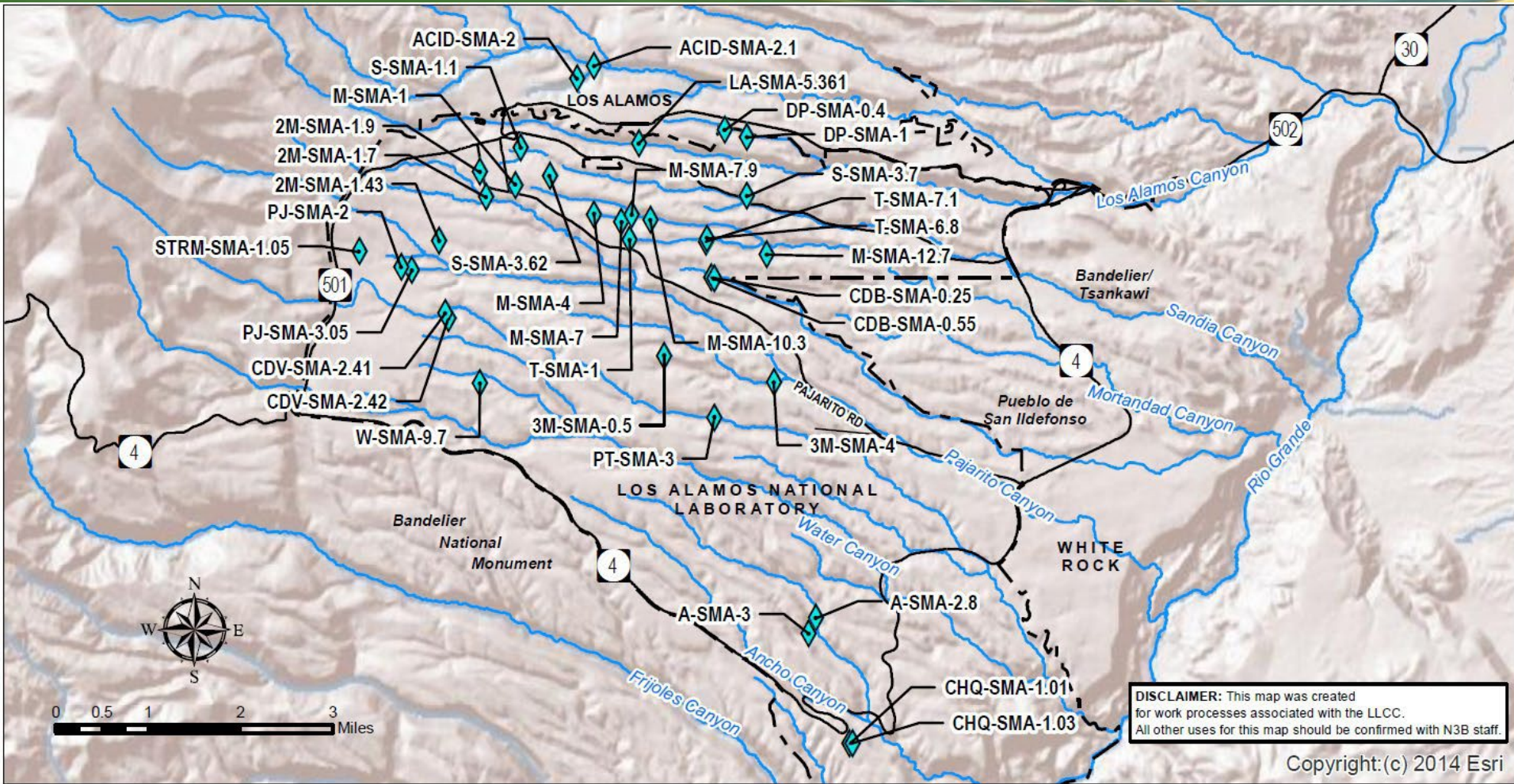
<u>Earthen Berm</u>	<u>3-year, 24- hour Storm Runoff Volume (ft³)</u>	<u>Pond Retention Volume (ft³)</u>	<u>Volume Difference (ft³)</u>	<u>Maximum Allowable Sediment Accumulation Stage (ft)</u>
J00103010022	450	2,717	2267	2.0

Contour Elevation	Contour Area (sq. ft.)	Incremental Depth (ft)	Average End Area Incremental Volume (cu. ft.)	Average End Area Cumulative Volume (cu. ft.)
7,553.3	15	0	0	0
7,553.4	88	0.1	2.17	2.17
7,553.5	202	0.2	12.69	14.86
7,553.6	322	0.3	26.17	41.04
7,553.7	427	0.4	37.43	78.47
7,553.8	522	0.5	47.44	125.91
7,553.9	613	0.6	56.76	182.66
7,554.0	708	0.7	66.08	248.75
7,554.1	808	0.8	75.82	324.56
7,554.2	905	0.9	85.63	410.19
7,554.3	1014	1	95.93	506.12
7,554.4	1143	1.1	107.86	613.98
7,554.5	1279	1.2	121.11	735.09
7,554.6	1412	1.3	134.57	869.65
7,554.7	1549	1.4	148.08	1017.73
7,554.8	1705	1.5	162.74	1180.47
7,554.9	1848	1.6	177.65	1358.12
7,555.0	1993	1.7	192.02	1550.14
7,555.1	2130	1.8	206.13	1756.27
7,555.2	2260	1.9	219.48	1975.76
7,555.3	2398	2	232.87	2208.63
7,555.4	2541	2.1	246.94	2455.57
7,555.5	2679	2.2	261.01	2716.59





Corrective Actions Planned for 2026 through 2028 – 39 SMAs



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You can find site maps here:

<https://ext.em-la.doe.gov/IPS/Home/SiteMonitoringAreaMaps?Length=4>

You can find corrective action certification packages here:

<https://ext.em-la.doe.gov/IPS/Home/constructioncertifications?Length=4>

Questions?



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Produced by Los Alamos Legacy Cleanup Contractor, N3B Los Alamos
on behalf of DOE's Environmental Management Los Alamos Field Office

