

Soil Sampling Report

Eaton Wildfire Phase 2 Debris Removal Footprint Lead Sampling Los Angeles County, California



EPA Contract Number (No.): 68HE0919D0002
Document Control No.: 0279-08-ACKW
Task Order No.: 68HE0923F0075-20

May 2026

Prepared for:



**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 9**

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LIST OF ACRONYMS

%	Percent
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	Chemical of Potential Concern
CV	Coefficient of Variation
DQI	Data Quality Indicator
DQO	Data Quality Objective
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Human Health Risk Assessment Screening Level for Residential Soils
DU	Decision Unit
DVR	Data Validation Report
EDD	Electronic Data Deliverable
EL	Evaluation Level
EPA	U.S. Environmental Protection Agency
ERT	Environmental Response Team
FEMA	Federal Emergency Management Agency
HERO	Human and Ecological Risk Office
HHRA	Human Health Risk Assessment
ICP AES	Inductively Coupled Plasma–Atomic Emission Spectrometry
ISM	Incremental Sampling Methodology
ITRC	Interstate Technology & Regulatory Council
LCSJ	Result is an estimated quantity
J-	Result is an estimated quantity, but may be biased low
LACDPH	Los Angeles County Department of Public Health
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
mg/kg	Milligrams per Kilogram
MS/MSD	Matrix Spike / Matrix Spike Duplicate
ND	Not Detected
OERR	Office of Emergency and Remedial Response
Pb	Lead
PNNL	Pacific Northwest National Laboratory
QA	Quality Assurance
QAB	Quality Assurance Branch
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
RSL	EPA Regional Screening Level for Residential Soils

SERAS	Science & Ecosystem Support Division
SOP	Standard Operating Procedure
START	Superfund Technical Assessment and Response Team
SU	Sampling Unit
TO	Task Order
U	Analyte was not detected above the level of the detection limit
UCL	Upper Confidence Limit
USACE	U.S. Army Corps of Engineers
VSP	Visual Sample Plan
WESTON®	Weston Solutions, Inc.

EXECUTIVE SUMMARY

Background: Following the Eaton Wildfire in January 2025, the U.S. Army Corps of Engineers (USACE) conducted removal of ash and debris from the footprint of destroyed residential homes at 5,643 property parcels, which included the removal of the top 6 inches of soil from beneath the debris.

Los Angeles County prepared a Human Health Screening Report for the Eaton and Palisades burn areas. The Report concluded that, for the Eaton area, lead was the only community-wide, fire-related contaminant for residential soil. No community-wide, fire-related contaminants were identified for Palisades in the study.

EPA Sampling: EPA designed a statistically robust sampling strategy to measure Eaton Wildfire post-removal concentrations of lead in soil. Surface soils in a removal excavation were characterized to evaluate the efficacy of removal of the upper 6 inches of soil. Subsurface soils were also included to assess the impact of removal depth (if an additional 6 inches of soil had been removed). The sampling strategy utilized the Incremental Sampling Methodology (ISM) protocol to produce results that reliably represent the average lead concentration across the entire excavated area of a parcel. One hundred of the 5,643 excavated parcels were randomly selected to provide adequate spatial coverage and allow results to be extended reliably to the entire burn zone.

In January 2026, EPA collected 280 composite samples from 4,200 soil borings. Each individual parcel depth horizon (surface and subsurface) was represented by a single composite sample composed of 30 systematically distributed soil increment locations. All samples were analyzed for lead by the EPA Region 7 Laboratory using Inductively Coupled Plasma–Atomic Emission Spectrometry.

Results: Analytical results demonstrated that lead concentrations across the sampling area were generally well below risk-based screening levels, although they exhibited variability common for soil contaminant data. For surface soil, the mean and median lead concentrations were 60 and 31 milligrams per kilogram of soil (mg/kg), respectively. For shallow subsurface soil, the mean and median lead concentrations were 43 and 21 mg/kg, respectively. The median values were determined to be significantly less than both the EPA residential Regional Screening Level (RSL) of 200 mg/kg and the California Department of Toxic Substances Control (DTSC) residential screening level of 80 mg/kg for both soil horizons (based on statistical hypothesis testing at a 95% confidence level).

Soil lead concentrations ranged from non-detect (less than 5 mg/kg) to 705 mg/kg. Although a limited number of soil ISM samples for individual parcels exceeded residential screening levels, these exceedances represented a relatively small proportion of the total dataset. For the 100 surface soil sampling locations, 17 exceeded the California residential screening level, five of which also exceeded the EPA RSL. For the 100 subsurface soil sampling locations, 12 exceeded the California residential screening level, two of which also exceeded the EPA RSL.

exceeded the EPA RSL. For the 100 subsurface soil sampling locations, 12 exceeded the California residential screening level, two of which also exceeded the EPA RSL.

Conclusion: Based on the sampling results, median soil lead concentrations across the Eaton fire debris removal excavations were significantly below risk-based residential soil screening levels; as a result of the statistical design, there is 95% confidence that these results apply to both sampled and unsampled Eaton parcels. Further, analysis of the surface and subsurface results indicates that soil lead concentrations would have been similar if the upper 12 inches of soil had been removed rather than the upper 6 inches. Although median soil lead concentrations were significantly below screening levels, approximately 15 percent of samples exceeded the CA and/or EPA residential screening level across both depths (surface and subsurface). The findings meet the project objectives of characterizing post-removal soil conditions and providing a defensible, statistically robust dataset to inform future wildfire responses, and are not intended to be used for human health risk assessment.

Some of the observed soil impacts in the areas where soil/debris was removed may not be fire-related and could have derived from anthropogenic sources. Anthropogenic sources of lead in the Los Angeles area include lead-based paint, leaded gasoline emissions from freeways and major roads, aerial deposition of aviation fuel emissions, and industrial sources (e.g., smelters).

1.0 INTRODUCTION

1.0 PROJECT BACKGROUND

The U.S. Environmental Protection Agency (EPA) tasked Weston Solutions, Inc. (WESTON®), the Region 9 Superfund Technical Assessment and Response Team (START) contractor, to support the EPA with the Eaton Wildfire Phase 2 Debris Removal Footprint Lead Sampling under Task Order Number 68HE0923F0075-20.

Findings from a sampling effort by the Los Angeles County Department of Public Health (LACDPH) reported that parcels with destroyed structures from both the Eaton and Palisades wildfire areas showed a substantial reduction in potential human health risk where ash, soil, and debris were removed by the U.S. Army Corps of Engineers (USACE). EPA requested that Region 9 START contractor provide technical support related to sampling and documentation of Phase 2 fire debris removals (Phase 2 Removals) conducted by the USACE at Eaton Wildfire–destroyed properties following the January 2025 Eaton Wildfire. Prior to the Phase 2 removal actions, EPA led the removal of household hazardous materials conducted under a Federal Emergency Management Agency (FEMA) mission assignment under authorities of the Stafford Act (42 U.S.C. § 5174 *et seq.*). This sampling effort was also conducted under the FEMA mission assignment.

1.1 PROJECT OBJECTIVES

The primary objective of EPA’s sampling was to measure the lead concentration in the soil within the footprint of burned structures where USACE removed fire debris, ash, and the top 6 inches of soil.

The sampling results will inform residents as to how much lead may be present in the footprint of burned structures following the fire debris removal and excavation of 6 inches of soil. The data will also validate and inform future policies for conducting wildfire response and debris removal.

1.2 POTENTIAL ANALYTE OF CONCERN CONTAMINATION AND EXPOSURE

The LACDPH sampling (Roux, 2025) identified the following chemicals of potential concern (COPCs) that exceeded their respective California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Human Health Risk Assessment residential soil screening levels (DTSC-SLs): arsenic, cadmium, copper, lead, benz[*a*]anthracene, benzo[*a*]pyrene, benzo[*b*]fluoranthene, and dibenz[*a,h*]anthracene. However, when employing their methodology to identify community-wide, fire-related impacts, the only COPC that met those criteria for the Eaton Wildfire was lead.

2.0 SAMPLING AREA DESCRIPTION

2.0 SITE HISTORY

Thousands of homes in Altadena, Pasadena, and Sierra Madre were destroyed in the Eaton Wildfire in January 2025. Under a Stafford Act FEMA Mission Assignment, EPA conducted Phase 1 removal of household hazardous materials in preparation for the USACE Phase 2 Debris Removal.

Phase 2 of the cleanup involved removal of visible fire debris such as chimneys, hazardous trees, and vehicles, ash, and, if specified by property owners, foundations. As part of Phase 2 Removal, the upper six inches of soil were excavated from the former structure's ash footprint. USACE performed Phase 2 Removals at 5,643 parcels within the Eaton Wildfire perimeter. The goal of Phase 2 Removal was to clear properties of fire-related debris to make them safe for rebuilding and recovery. Confirmation soil sampling for fire-related contaminants, including lead, was not performed.

The LACDPH conducted sampling of 15 parcels with destroyed structures before and after the Phase 2 Removal. Sampling results of parcels after the debris removal showed a substantial reduction in the potential human health risk where soil removal occurred (Roux, 2025). Post Phase 2 Removal sampling included the collection of 10 discrete samples distributed on a grid across the entire parcel. Concentrations of lead exceeded the DTSC-SL of 80 milligrams per kilogram of soil (mg/kg) for residential soil (DTSC, 2025) in some individual samples where soil removal did not occur, and also in areas where soils were removed. Of the 15 parcels evaluated by LACDPH, the average lead concentration of the 10 discrete samples exceeded the DTSC-SL in only 3 parcels. Some of the observed soil impacts in the areas where soil/debris was removed may not be related to fire and could have derived from anthropogenic sources. Anthropogenic sources of lead in the Los Angeles area include lead-based paint, leaded gasoline emissions from freeways and major roads, aerial deposition of aviation fuel emissions, and industrial sources (e.g., smelters).

2.1 SAMPLING EXTENT

The extent of the sampling area included parcels where destroyed structures had been removed by USACE as part of their Phase 2 Debris Removal. The vacant Phase 2 Removal parcels were intermixed with a relatively small number of homes that were not destroyed by the wildfire, as well as homes in various stages of reconstruction. The sampling areas were limited to the excavation footprint within each parcel. The excavation footprint was the ash footprint of each structure that had been destroyed and then removed. The sampling included the collection and analysis of two 30-increment composite soil samples collected from each of two soil horizons, surface and subsurface, within the excavation footprint from 100 randomly selected residential properties. The project location and extent of the sampling area are shown in **Figure 1**.

3.0 SOIL SAMPLING

In December and January 2026, EPA conducted field activities to collect soil from 100 randomly selected Phase 2 Removal excavations at project-defined depth intervals termed Horizon 1 (surface soil, 0 to 1 inch below ground surface [bgs]) and Horizon 2 (shallow subsurface soil, 6 to 7 inches bgs). Horizon 1 represents the current, post-excavation ground surface and Horizon 2 would represent the bottom of an excavation if an additional 6 inches of soil were removed. The approximate soil sampling parcel locations are shown in **Figure 2**.

3.0 SAMPLING DESIGN

The sampling design was developed to meet the Data Quality Objectives (DQOs) defined in the *Eaton Wildfire Phase 2 Debris Removal Footprint Lead Sampling Quality Assurance Project Plan (QAPP)* (WESTON, 2026). The DQO process, established in accordance with EPA's *Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G4* (EPA, 2006), was used to establish project-specific data requirements. An outline of this process and its outputs was provided in the QAPP, included as **Appendix A**. This investigation generated definitive soil data consistent with the requirements in EPA's *Data Quality Objective Process for Superfund*, EPA 540R93071 (EPA, 1993). All analytical methods employed were EPA-approved definitive methods.

Based on the DQOs, Incremental Sampling Methodology (ISM) was selected as the best strategy to determine average parcel-level lead concentrations in designated soil sampling areas. ISM activities were performed in accordance with the EPA ERT/SERAS SOP #2019 (SERAS, 2015) and the *ITRC Incremental Sampling Methodology Technical and Regulatory Guidance* (ITRC, 2020) and project-modified EPA Region 10 ISM SOPs (EPA, 2022a).

Statistical sampling strategies were evaluated to assess the influence of removal activities on average surface soil lead concentrations relative to the evaluation level, which was a risk-based screening level. Two decision units (DUs) were defined across the site:

- *DU-1*: Horizon 1; surface soil (0–1 inch bgs, i.e., the exposed soil after excavation of the top 6 inches) from Phase 2 Removal footprints.
- *DU-2*: Horizon 2; shallow subsurface soil (6–7 inches bgs, i.e., the hypothetical bottom of an excavation footprint if an additional 6 inches of soil had been excavated).

Each DU consisted of 100 sampling units (SUs; equivalent to Phase 2 Removal excavation within a parcel) selected randomly from 5,643 Phase 2 Removal parcels.

3.1 FIELD ACTIVITIES

3.2.1 Selection of Phase 2 Removal Parcels for Sampling

An initial list of potential sampling locations was generated by randomly selecting 300 of the 5,643 Phase-2-Removal parcels using ArcGIS software. In December 2025, the Region 9 START

contractor conducted brief roadside visits to each of the 300 parcels to confirm their viability as potential sampling locations by confirming that an excavation had occurred, that the area was accessible, and that the area was not disturbed by construction activities or erosion. The condition of each parcel was documented in the ArcGIS Field Maps mobile application. Following the initial site visit, the list was reduced to 219 parcels, whose owners were notified by email of the planned sampling and were provided the opportunity to not participate; property owners who could not be contacted were also removed from the list. The list of 219 parcels was placed in random order and the first 100 parcels on the list were selected for sampling, with the non-selected parcels reserved as alternative/backup sample locations.

3.2.2 ISM Sampling

For each Phase 2 Removal excavation, a sampling grid consisting of 30 locations with a random starting point was generated using Visual Sample Plan (VSP) software (PNNL, 2018) and transferred to the ArcGIS Field Maps mobile application. The grid sampling points were marked in the excavation footprints with pin flags. Aliquots were collected by manually driving a 1 inch-diameter stainless steel soil probe to 10 inches bgs at each of the 30 locations. Soil aliquots were removed from the window in the body of the probe from intervals of 0 to 1 inch and 6 to 7 inches. Surface and subsurface soil aliquots from each of the 30 probe locations were combined into Ziploc[®] bags as one single composite sample for each depth.

ISM replicate (triplicate) samples were collected from 20% of the SUs and were selected by using a systematic random method determined by SU numbers ending with a “0” or “5” to ensure a random distribution throughout the study area. The replicate samples were collected in the same manner as the primary sample after offsetting the original grid locations by 1 meter to the left and right with respect to the length of the excavation.

An example SU with ISM sample aliquot locations is presented in **Figure 3**.

Sampling probes were decontaminated with Liquinox[®] detergent and rinsed with distilled water between SU collections. To evaluate potential cross-contamination, one equipment rinsate blank was collected per sampling day for a total of 11 samples. Rinsate blanks were prepared by pouring Ultra Pure Blank Water[™] through the sampling probe and were analyzed for unfiltered lead. Additionally, lab equipment rinsate blanks were collected from soil sieves by the Region 7 START contractor.

3.2 LABORATORY ANALYSIS

All samples were submitted to the EPA Region 7 Laboratory located in Kansas City, Kansas. The Region 7 START contractor conducted ISM sample preparation by drying, sieving, and subsampling 30 soil aliquots into one subsample. The Region 7 START ISM sample preparation report is included in **Appendix B**. Region 7 lab personnel analyzed the subsample for metals by Inductively Coupled Plasma–Atomic Emission Spectrometry (ICP-AES) under the laboratory’s standard operating procedure (SOP) *Analysis of Metals by ICP-AES*. Data Quality Indicators (DQIs) in accordance with the QAPP are listed in **Table 3-1**.

Table 3-1. Laboratory Analysis and Data Quality Indicators

Laboratory Method	Matrix	Screening Level	Reporting Limit	Accuracy (Percent Recovery)	Precision (RPD/RSD)	Percent Complete
Lead (Pb) by ICP-AES	Soil	80 mg/kg ¹ 200 mg/kg ²	5.0 mg/kg	LCS/LCSD: 70-130%	≤ 35% RSD for field triplicates	90 – 100%
				MS/MSD: 75-125%	≤ 20% RPD for LCS/LCSD, MS/MSD	
1 = Department of Toxic Substances Control Human Health Risk Assessment Screening Level for Residential Soils (DTSC-SL) 2 = Environmental Protection Agency Regional Screening Level for Residential Soils (RSL) mg/kg = milligrams per kilogram MS/MSD = matrix spike/matrix spike duplicate RPD = relative percent difference RSD = relative standard deviation LCS/LCSD = laboratory control sample/ laboratory control sample duplicate Percent Complete = a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected.						

ISM preparation followed Section 5.3 of ISM Update ISM 2 from the Interstate Technology & Regulatory Council (ITRC, 2020) and EPA Region 10 ISM SOPs (EPA, 2022a). Although the ITRC guidance specified sieving to < 150 micron particle diameter (#100 mesh), initial testing showed insufficient sample mass for this size fraction. Therefore, a #60 mesh sieve (< 250 micron particle diameter) was used.

Duplicate samples were collected for 10% of the 280 samples submitted for analysis. Samples were selected for re-analysis after reviewing the initial lead results and focused on higher-concentration sample results for which triplicate RSD values exceeded 35%. The duplicate samples were prepared by the Region 7 START contractor by homogenizing the previously dried and sieved soil from the initial sample and repeating the ISM subsampling of 30 soil aliquots. The duplicate subsample was analyzed using the same methods described above.

4.0 SAMPLING RESULTS

A total of 280 soil samples were collected and analyzed for lead by ICP-AES from the two horizons, including 100 field samples and 40 field triplicate samples from Horizon 1 (surface soil at a depth of 0 to 1 inch bgs) and 100 field samples and 40 field triplicate samples from Horizon 2 (shallow subsurface at a depth of 6 to 7 inches bgs). Laboratory analytical data packages are included in **Appendix B**.

Data presented in this section represent the maximum lead concentration for each parcel, including field replicates and duplicates. This data analysis strategy is a worst-case approach in that it focuses on the greatest soil lead concentration collected from a parcel.

Soil samples representing 100 parcels in DU-1 (Horizon 1; 0 to 1 inch bgs) had a minimum lead concentration of 8 mg/kg, a maximum lead concentration of 705 mg/kg, and a mean lead concentration of 60 mg/kg.

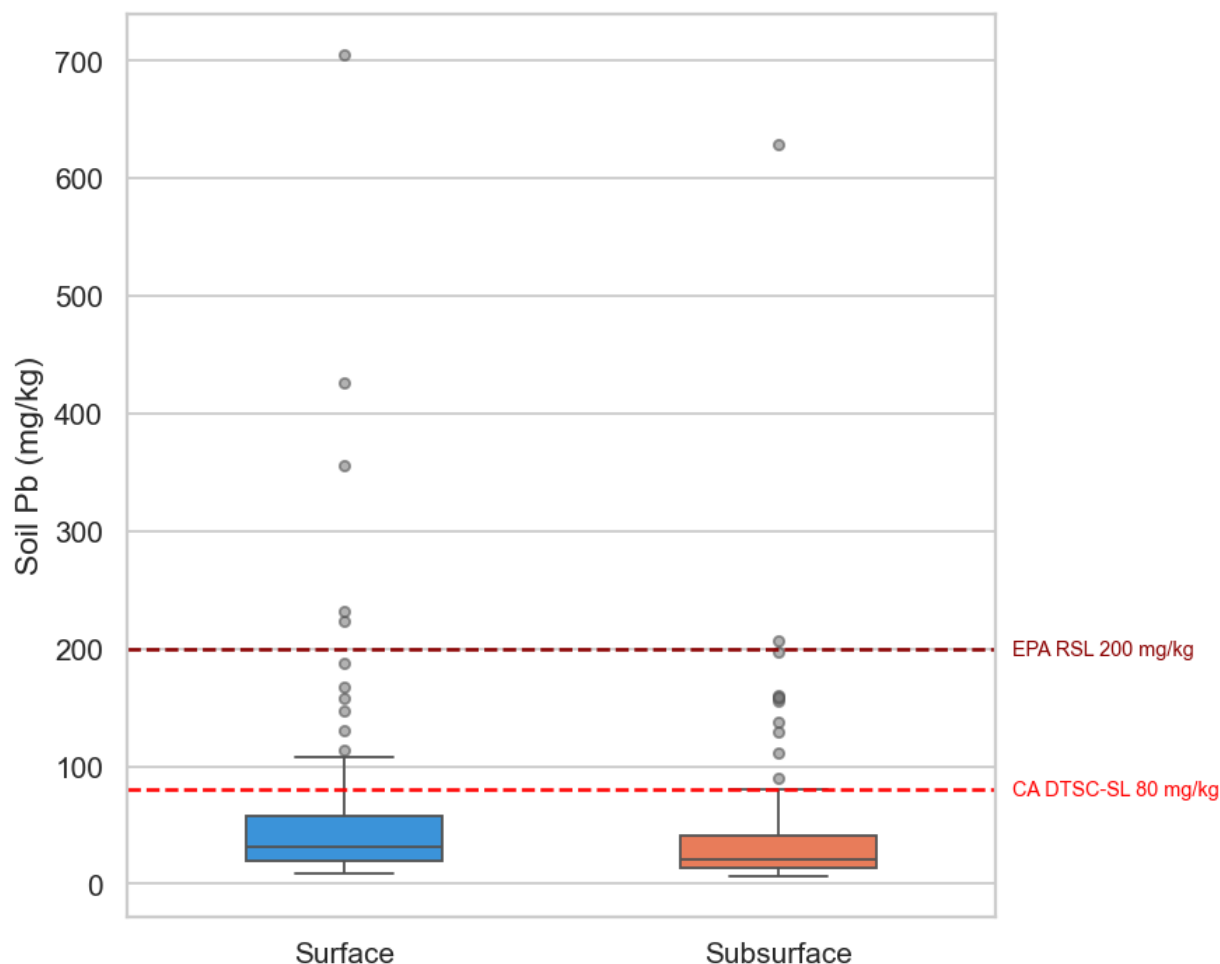
Soil samples representing 100 parcels in DU-2 (Horizon 2; 6 to 7 inches bgs) had a minimum lead concentration of < 5 mg/kg (non-detect), a maximum lead concentration of 629 mg/kg, and a mean lead concentration of 43 mg/kg.

A summary of lead analytical results is shown in **Table 4-1**. All lead results are presented in **Table A-1**.

Table 4-1. Summary of Lead Concentrations in Surface and Subsurface Soil

Statistical Parameter	Horizon 1 Surface Soil	Horizon 2 Shallow Subsurface Soil
Number of samples (<i>n</i>)	100	100
Minimum	8 mg/kg	<5 mg/kg (non-detect)
Maximum	705 mg/kg	629 mg/kg
Mean	60 mg/kg	43 mg/kg
Standard deviation	93 mg/kg	73 mg/kg
Coefficient of Variation (CV)	150%	170%
25 th percentile	19 mg/kg	13 mg/kg
50 th percentile (median)	31 mg/kg	21 mg/kg
75 th percentile	57 mg/kg	41 mg/kg
mg/kg = milligram per kilogram of soil		

The distribution of lead concentrations is displayed in **Exhibit 4-1**.

Exhibit 4-1. Distribution of Lead Concentrations in Surface and Shallow Subsurface Soil

In Exhibit 4-1, the bottom ends of the boxes represent 25th percentile values, the top ends of the boxes represent 75th percentile values, and the horizontal lines inside the boxes represent the medians. Mean and median values are presented in Table 4-1.

Mean and median soil lead concentrations (Table 4-1) were comparable to those observed in urban park soils in Los Angeles, 65.5 and 45 mg/kg, respectively (Hung et al., 2018).

4.1 COMPARISON TO RISK-BASED SCREENING LEVELS

Statistical evaluations were conducted to examine the effect of the Phase 2 Debris Removal activities on soil lead concentrations in relation to risk-based screening levels. The lead results for each of the two soil depths (Surface and Shallow Subsurface, or Horizons 1 and 2, respectively) were compared to the EPA Regional Screening Level (RSL) for residential soils of 200 mg/kg (EPA, 2024), and the DTSC HERO Human Health Risk Assessment residential screening level (DTSC-SL) of 80 mg/kg (DTSC, 2025). Sampling design included elements to maximize the robustness and reliability of these statistical comparisons to screening levels. For example, ISM

sampling provided parcel-level, average soil lead concentrations designed to minimize the influence of spatial heterogeneity and localized variability. Further, an *a priori* statistical power analysis was conducted with previously collected data from the Eaton Wildfire area (Roux, 2025) to estimate the minimum number of samples needed to attain 80% statistical power, and this sample number was multiplied more than two-fold to maximize power for this project (see QAPP, **Appendix A**).

Hypothesis testing was used to compare lead results for Horizon 1 (surface soil at a depth of 0 to 1 inch bgs, i.e., the exposed soil after Phase 2 Removal excavation of the top 6 inches) and Horizon 2 (shallow subsurface at a depth of 6 to 7 inches bgs, which would represent the bottom of an excavation if an additional 6 inches of soil were removed) against the EPA residential soil RSL (200 mg/kg) and residential soil DTSC-SL (80 mg/kg); this constituted a total of four statistical tests (i.e., Horizon 1 vs. RSL, Horizon 1 vs. DTSC-SL, Horizon 2 vs. RSL, Horizon 2 vs. DTSC-SL). Each Horizon was evaluated against each screening level using the following null and alternative hypotheses:

- The median soil lead concentration within the Horizon *equals or exceeds* the screening level (i.e., null hypothesis, or H_0).
- If the null hypothesis is rejected, then the alternative hypothesis (H_1) is accepted (i.e., the median soil lead concentration is *less than* the screening level).

Goodness-of-fit tests using ProUCL 5.2.0 (EPA, 2022b) were performed with the surface (Horizon 1) and subsurface (Horizon 2) data sets and it was determined that neither data set had a discernible distribution at a 0.05 level of significance (i.e., neither data set had a normal, lognormal, or gamma distribution). For this reason, the nonparametric one-sample Wilcoxon Signed-Rank test (ProUCL 5.2.0) was used ($\alpha = 0.05$) for hypothesis testing.

The one-sample Wilcoxon Signed-Rank tests indicated that median lead concentrations in both surface soil (after excavation of the top 6 inches) and subsurface soil (representing the bottom of an excavation if an additional 6 inches of soil were removed) were significantly less than the EPA RSL of 200 mg/kg and the DTSC-SL of 80 mg/kg ($\alpha = 0.05$). The very low *P*-values for all four screening level comparisons indicate a high degree of statistical significance of these results.

The *P*-values for the Wilcoxon Signed-Rank tests are listed below:

- Horizon 1 (surface) vs. RSL: 2×10^{-15}
- Horizon 1 (surface) vs. DTSC-SL: 7×10^{-8}
- Horizon 2 (subsurface) vs. RSL: 4×10^{-17}
- Horizon 2 (subsurface) vs. DTSC-SL: 7×10^{-10}

EPA ProUCL 5.2.0 outputs of the statistical comparisons to screening levels, and goodness-of-fit tests, are available in **Appendix D**.

Although median lead concentrations in both surface soil and subsurface soil were significantly less than screening levels, there were parcel-level exceedances. Parcel-specific soil lead results compared to the screening levels are summarized in **Table 4-2**. For the 100 surface soil sampling locations, 83 did not exceed any screening level, 17 exceeded the DTSC-SL, five of which also exceeded the EPA RSL. For the 100 subsurface soil sampling locations, 88 did not exceed any screening level, 10 exceeded the DTSC-SL, two of which also exceeded the EPA RSL.

Table 4-2. Number of Sample Locations Exceeding Risk-Based Screening Levels

Screening Level	Horizon 1 Surface Soil	Horizon 2 Shallow Subsurface Soil
<80 mg/kg No Exceedance	83	88
80 to 200 mg/kg DTSC-SL	12	10
>200 mg/kg EPA RSL	5	2
DTSC-SL = Department of Toxic Substances Control Human Health Risk Assessment Screening Level for Residential Soils EPA RSL = Environmental Protection Agency Regional Screening Level for Residential Soils mg/kg = milligrams per kilogram of soil		

4.2 DATA VALIDATION

The EPA Region 9 Quality Assurance Branch (QAB) reviewed the EPA Region 7 laboratory data in accordance with the QAPP. All data were validated at Tier 2 using Stage 2A data packages, and approximately 10% of the data were additionally evaluated at Tier 3 using a Stage 3 data package. The Region 9 START contractor provided field notes and sampling documentation, and the Region 7 Laboratory supplied an initial Stage 3 data package followed by Level 2A data packages for subsequent analyses. The documentation included in these data packages was defined in the *EPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (540-R-08-005; EPA, 2009). Data validation was performed in accordance with the *EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review* (542-R-20-006; EPA, 2020), using QC parameters specific to the analytical methods employed in accordance with EPA Region 7 Laboratory SOP 3122.03K.

Based on the review, the QAB concluded that all data are acceptable for project use. The data review and associated data qualifiers are documented in the Data Validation Reports (DVRs), included in **Appendix C**.

The Region 9 START contractor conducted a review of all EPA Region 7 laboratory data to evaluate expected ranges, spatial anomalies, sampling information accuracy, and the completeness of electronic data deliverables (EDDs) for import into the project Scribe database.

4.3 ASSESSMENT OF SAMPLE VARIABILITY

In order to assess sample variability, field replicate (triplicate) soil samples were collected from 20% of the SUs from each Horizon, in accordance with ISM guidance, which specified that field replicates be collected in triplicate. The triplicate soil sample aliquots were collected one meter to the left and one meter to the right of the primary gridded sampling locations. Replicate samples were preserved, packaged, and sealed in the same manner as the field samples. A separate sample number was assigned to each replicate.

An example SU with triplicate ISM sample aliquot locations is presented in **Figure 3**.

The QC criterion of 35% for ISM triplicate RSDs is defined in the QAPP (**Appendix A**; ITRC, 2020). Across surface and subsurface ISM triplicates, the mean and median RSD values were 29% and 18%, respectively. An RSD of 35% was exceeded at ten sampling locations, including four locations within DU-1 (Horizon 1, surface), and six locations within DU-2 (Horizon 2, subsurface).

In addition, 10% of samples (28 samples) were selected for re-analysis after reviewing the initial lead results and focusing on higher-concentration sample results for which triplicate RSD values exceeded 35%. The duplicate (re-analysis) samples were prepared by homogenizing the previously dried and sieved soil from the initial sample and repeating the ISM subsampling of 30 soil aliquots, followed by ICP-AES analysis. Relative percent difference (RPD) values for the 28 samples ranged from 0.2% to 38%, with a mean of 8.8% and a median of 6.7%. The data are available in **Appendix Table A-1**.

4.4 DEVIATIONS FROM THE QAPP

The re-analysis of duplicate samples was not specified in the QAPP. Following the review of the analytical results of the 280 field samples, the project team decided to re-analyze duplicate samples for 10% of the samples by homogenizing the previously dried and sieved soil from the initial sample preparation and repeating the ISM subsampling of 30 soil aliquots for analysis.

The QAPP specified that soil moisture content be calculated, however, samples were dried and sieved without recording the wet weight. The weight of the ISM sub-sampled soil for analysis was recorded. The samples were further dried prior to analysis to determine percent solids and the results were reported on a dry-weight basis.

The laboratory selected 5% of samples for matrix/matrix spike duplicate (MS/MSD) analyses using ISM subsamples samples with a greater volume, rather than samples identified on the chain-of-custody by the field team.

5.0 SUMMARY AND CONCLUSIONS

Based on the results of January 2026 Eaton Wildfire Phase 2 Debris Removal Footprint Lead Sampling conducted by EPA and the Region 9 START contractor, soil lead concentrations across the project area were generally well below risk-based screening levels, although they exhibited variability common for soil contaminant data. The findings meet the project objectives of characterizing post-removal soil conditions and providing a defensible, statistically robust dataset to inform future wildfire responses.

For surface soil, the mean and median lead concentrations were 60 and 31 mg/kg, respectively. For shallow subsurface soil, the mean and median lead concentrations were 43 and 21 mg/kg, respectively. The median values were determined to be significantly less than both the EPA residential Regional Screening Level (RSL) of 200 mg/kg and the California Department of Toxic Substances Control (DTSC) residential screening level of 80 mg/kg for both soil horizons (One-Sample Wilcoxon Signed-Rank test; $\alpha = 0.05$; P -values for statistical comparisons to the 200 mg/kg RSL were 2×10^{-15} for the surface soils and 4×10^{-17} for the subsurface soils, indicating a very high level of statistical significance). As a result of the statistical design, there is 95% confidence that these results apply to both sampled and unsampled Eaton Wildfire Phase 2 Removal parcels. Further, analysis of the surface and subsurface results indicates that soil lead concentrations would have been similar if the upper 12 inches of soil had been removed rather than the upper 6 inches.

Although some soil ISM samples for individual parcels exceeded residential screening levels at a limited number of locations, these exceedances represented a relatively small proportion of the total dataset. For the 100 surface soil sampling locations, 17 exceeded the DTSC screening level, five of which also exceeded the EPA RSL. For the 100 subsurface soil sampling locations, 12 exceeded the DTSC screening level, two of which also exceeded the EPA RSL.

6.0 REFERENCES

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Tables

Table A-1
Soil Sampling Analytical Results

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-001-A	2600107-01	SU-001	Horizon 1	Field Sample	01/29/2026	8.35		
SU-001-B	2600107-02	SU-001	Horizon 2	Field Sample	01/29/2026	7.03		
SU-002-A	2600084-42	SU-002	Horizon 1	Field Sample	01/28/2026	28.5		
SU-002-B	2600084-43	SU-002	Horizon 2	Field Sample	01/28/2026	15.2		
SU-003-A	2600084-01	SU-003	Horizon 1	Field Sample	01/28/2026	19.3		
SU-003-B	2600084-02	SU-003	Horizon 2	Field Sample	01/28/2026	13.5		
SU-004-A	2600084-03	SU-004	Horizon 1	Field Sample	01/28/2026	45.7		
SU-004-B	2600084-04	SU-004	Horizon 2	Field Sample	01/28/2026	49.1		
SU-005-A	2600082-01	SU-005	Horizon 1	Field Sample	01/26/2026	92.5		8%
SU-005-A-R1	2600082-02	SU-005	Horizon 1	Field Triplicate	01/26/2026	92.4		
SU-005-A-R2	2600082-03	SU-005	Horizon 1	Field Triplicate	01/26/2026	80.2		
SU-005-B	2600082-04	SU-005	Horizon 2	Field Sample	01/26/2026	80.8		19%
SU-005-B-R1	2600082-05	SU-005	Horizon 2	Field Triplicate	01/26/2026	56.3		
SU-005-B-R2	2600082-06	SU-005	Horizon 2	Field Triplicate	01/26/2026	63.1		
SU-006-A	2600081-27	SU-006	Horizon 1	Field Sample	01/22/2026	131		
SU-006-B	2600081-28	SU-006	Horizon 2	Field Sample	01/22/2026	112		
SU-007-A	2600084-44	SU-007	Horizon 1	Field Sample	01/28/2026	22.6		
SU-007-B	2600084-45	SU-007	Horizon 2	Field Sample	01/28/2026	12.4		
SU-008-A	2600083-29	SU-008	Horizon 1	Field Sample	01/22/2026	19.4		
SU-008-B	2600083-30	SU-008	Horizon 2	Field Sample	01/22/2026	16.3		
SU-009-A	2600081-29	SU-009	Horizon 1	Field Sample	01/21/2026	73.9		
SU-009-B	2600081-30	SU-009	Horizon 2	Field Sample	01/21/2026	35.7		
SU-010-A	2600083-01	SU-010	Horizon 1	Field Sample	01/24/2026	29.9		13%
SU-010-A-R1	2600083-02	SU-010	Horizon 1	Field Triplicate	01/24/2026	32.9		
SU-010-A-R2	2600083-03	SU-010	Horizon 1	Field Triplicate	01/24/2026	38.5		
SU-010-B	2600083-04	SU-010	Horizon 2	Field Sample	01/24/2026	70.1		60%
SU-010-B-R1	2600083-05	SU-010	Horizon 2	Field Triplicate	01/24/2026	23.4		
SU-010-B-R2	2600083-06	SU-010	Horizon 2	Field Triplicate	01/24/2026	31.5		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-011-A	2600107-03	SU-011	Horizon 1	Field Sample	01/29/2026	42.7 J		
SU-011-B	2600107-04	SU-011	Horizon 2	Field Sample	01/29/2026	23		
SU-015-A	2600082-07	SU-015	Horizon 1	Field Sample	01/26/2026	16.9		6%
SU-015-A-R1	2600082-08	SU-015	Horizon 1	Field Triplicate	01/26/2026	16.7		
SU-015-A-R2	2600082-09	SU-015	Horizon 1	Field Triplicate	01/26/2026	15		
SU-015-B	2600082-10	SU-015	Horizon 2	Field Sample	01/26/2026	14.3		63%
SU-015-B-R1	2600082-11	SU-015	Horizon 2	Field Triplicate	01/26/2026	37.9		
SU-015-B-R2	2600082-12	SU-015	Horizon 2	Field Triplicate	01/26/2026	13.8		
SU-016-A	2600084-46	SU-016	Horizon 1	Field Sample	01/28/2026	100		
SU-016-B	2600084-47	SU-016	Horizon 2	Field Sample	01/28/2026	55.3		
SU-017-A	2600107-05	SU-017	Horizon 1	Field Sample	01/29/2026	20		
SU-017-B	2600107-06	SU-017	Horizon 2	Field Sample	01/29/2026	13.9		
SU-018-A	2600083-07	SU-018	Horizon 1	Field Sample	01/24/2026	12.7		
SU-018-B	2600083-08	SU-018	Horizon 2	Field Sample	01/24/2026	8.83		
SU-019-A	2600083-09	SU-019	Horizon 1	Field Sample	01/23/2026	158		
SU-019-B	2600083-10	SU-019	Horizon 2	Field Sample	01/23/2026	70.2		
SU-020-A	2600082-13	SU-020	Horizon 1	Field Sample	01/26/2026	214		3%
SU-020-A-R1	2600082-14	SU-020	Horizon 1	Field Triplicate	01/26/2026	211		
SU-020-A-R2	2600082-15	SU-020	Horizon 1	Field Triplicate	01/26/2026	223		
SU-020-B	2600082-16	SU-020	Horizon 2	Field Sample	01/26/2026	156		25%
SU-020-B-R1	2600082-17	SU-020	Horizon 2	Field Triplicate	01/26/2026	101		
SU-020-B-R2	2600082-18	SU-020	Horizon 2	Field Triplicate	01/26/2026	106		
SU-021-A	2600107-07	SU-021	Horizon 1	Field Sample	01/29/2026	34.6 J		
SU-021-B	2600107-08	SU-021	Horizon 2	Field Sample	01/29/2026	14.3		
SU-022-A	2600084-05	SU-022	Horizon 1	Field Sample	01/28/2026	52.7		
SU-022-B	2600084-06	SU-022	Horizon 2	Field Sample	01/28/2026	134 J	197 J	
SU-023-A	2600084-07	SU-023	Horizon 1	Field Sample	01/28/2026	37.9		
SU-023-B	2600084-08	SU-023	Horizon 2	Field Sample	01/28/2026	24.9		
SU-025-A	2600081-31	SU-025	Horizon 1	Field Sample	01/22/2026	50.4		8%
SU-025-A-R1	2600081-32	SU-025	Horizon 1	Field Triplicate	01/22/2026	58.1		
SU-025-A-R2	2600081-33	SU-025	Horizon 1	Field Triplicate	01/22/2026	58.4		
SU-025-B	2600081-34	SU-025	Horizon 2	Field Sample	01/22/2026	47.9		6%
SU-025-B-R1	2600081-35	SU-025	Horizon 2	Field Triplicate	01/22/2026	43.1		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-025-B-R2	2600081-36	SU-025	Horizon 2	Field Triplicate	01/22/2026	43		
SU-026-A	2600081-37	SU-026	Horizon 1	Field Sample	01/22/2026	48.4		
SU-026-B	2600081-38	SU-026	Horizon 2	Field Sample	01/22/2026	30.4		
SU-027-A	2600084-48	SU-027	Horizon 1	Field Sample	01/28/2026	108		
SU-027-B	2600084-49	SU-027	Horizon 2	Field Sample	01/28/2026	138		
SU-028-A	2600107-09	SU-028	Horizon 1	Field Sample	01/29/2026	11.6		
SU-028-B	2600107-10	SU-028	Horizon 2	Field Sample	01/29/2026	29.3		
SU-029-A	2600081-39	SU-029	Horizon 1	Field Sample	01/21/2026	52.3		
SU-029-B	2600081-40	SU-029	Horizon 2	Field Sample	01/21/2026	15.5		
SU-030-A	2600082-33	SU-030	Horizon 1	Field Sample	01/27/2026	27		26%
SU-030-A-R1	2600082-34	SU-030	Horizon 1	Field Triplicate	01/27/2026	21.1		
SU-030-A-R2	2600082-35	SU-030	Horizon 1	Field Triplicate	01/27/2026	35.6		
SU-030-B	2600082-36	SU-030	Horizon 2	Field Sample	01/27/2026	21.9		14%
SU-030-B-R1	2600082-37	SU-030	Horizon 2	Field Triplicate	01/27/2026	17.4		
SU-030-B-R2	2600082-38	SU-030	Horizon 2	Field Triplicate	01/27/2026	17.5		
SU-035-A	2600081-41	SU-035	Horizon 1	Field Sample	01/22/2026	142		5%
SU-035-A-R1	2600081-42	SU-035	Horizon 1	Field Triplicate	01/22/2026	147		
SU-035-A-R2	2600081-43	SU-035	Horizon 1	Field Triplicate	01/22/2026	134		
SU-035-B	2600081-44	SU-035	Horizon 2	Field Sample	01/22/2026	47		12%
SU-035-B-R1	2600081-45	SU-035	Horizon 2	Field Triplicate	01/22/2026	37		
SU-035-B-R2	2600081-46	SU-035	Horizon 2	Field Triplicate	01/22/2026	45		
SU-036-A	2600084-50	SU-036	Horizon 1	Field Sample	01/28/2026	71.8		
SU-036-B	2600084-51	SU-036	Horizon 2	Field Sample	01/28/2026	54.7		
SU-037-A	2600081-01	SU-037	Horizon 1	Field Sample	01/20/2026	44.7		
SU-037-B	2600081-02	SU-037	Horizon 2	Field Sample	01/20/2026	18.3		
SU-038-A	2600084-52	SU-038	Horizon 1	Field Sample	01/29/2026	14.9		
SU-038-B	2600084-53	SU-038	Horizon 2	Field Sample	01/29/2026	11.7		
SU-039-A	2600082-31	SU-039	Horizon 1	Field Sample	01/24/2026	232		
SU-039-B	2600082-32	SU-039	Horizon 2	Field Sample	01/24/2026	160		
SU-040-A	2600082-19	SU-040	Horizon 1	Field Sample	01/26/2026	47.7		2%
SU-040-A-R1	2600082-21	SU-040	Horizon 1	Field Triplicate	01/26/2026	46.7		
SU-040-A-R2	2600082-22	SU-040	Horizon 1	Field Triplicate	01/26/2026	46		
SU-040-B	2600082-20	SU-040	Horizon 2	Field Sample	01/26/2026	22.3		16%

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-040-B-R1	2600082-23	SU-040	Horizon 2	Field Triplicate	01/26/2026	17.6		
SU-040-B-R2	2600082-24	SU-040	Horizon 2	Field Triplicate	01/26/2026	24.5		
SU-041-A	2600083-31	SU-041	Horizon 1	Field Sample	01/22/2026	21		
SU-041-B	2600083-32	SU-041	Horizon 2	Field Sample	01/22/2026	33.9		
SU-042-A	2600081-47	SU-042	Horizon 1	Field Sample	01/21/2026	28.9		
SU-042-B	2600081-48	SU-042	Horizon 2	Field Sample	01/21/2026	564	629	
SU-043-A	2600083-11	SU-043	Horizon 1	Field Sample	01/24/2026	46.5		
SU-043-B	2600083-12	SU-043	Horizon 2	Field Sample	01/24/2026	36.1		
SU-044-A	2600084-54	SU-044	Horizon 1	Field Sample	01/28/2026	22		
SU-044-B	2600084-55	SU-044	Horizon 2	Field Sample	01/28/2026	21.8		
SU-045-A	2600083-33	SU-045	Horizon 1	Field Sample	01/23/2026	102	114 J-	22%
SU-045-A-R1	2600083-34	SU-045	Horizon 1	Field Triplicate	01/23/2026	73.9	72.3	
SU-045-A-R2	2600083-35	SU-045	Horizon 1	Field Triplicate	01/23/2026	68.8	68.2	
SU-045-B	2600083-36	SU-045	Horizon 2	Field Sample	01/23/2026	55.4		27%
SU-045-B-R1	2600083-37	SU-045	Horizon 2	Field Triplicate	01/23/2026	41.5		
SU-045-B-R2	2600083-38	SU-045	Horizon 2	Field Triplicate	01/23/2026	32.3		
SU-046-A	2600107-11	SU-046	Horizon 1	Field Sample	01/29/2026	12.6		
SU-046-B	2600107-12	SU-046	Horizon 2	Field Sample	01/29/2026	10.6		
SU-047-A	2600084-09	SU-047	Horizon 1	Field Sample	01/28/2026	47.3		
SU-047-B	2600084-10	SU-047	Horizon 2	Field Sample	01/28/2026	7.29		
SU-048-A	2600083-39	SU-048	Horizon 1	Field Sample	01/23/2026	76.7		
SU-048-B	2600083-40	SU-048	Horizon 2	Field Sample	01/23/2026	46.1		
SU-050-A	2600082-26	SU-050	Horizon 1	Field Sample	01/26/2026	172	177	89%
SU-050-A-R1	2600082-27	SU-050	Horizon 1	Field Triplicate	01/26/2026	168	158	
SU-050-A-R2	2600082-28	SU-050	Horizon 1	Field Triplicate	01/26/2026	705	701	
SU-050-B	2600082-25	SU-050	Horizon 2	Field Sample	01/26/2026	89.4	90.5	60%
SU-050-B-R1	2600082-29	SU-050	Horizon 2	Field Triplicate	01/26/2026	44.3	48.7	
SU-050-B-R2	2600082-30	SU-050	Horizon 2	Field Triplicate	01/26/2026	27.4	25.3	
SU-051-A	2600107-13	SU-051	Horizon 1	Field Sample	01/29/2026	13.3		
SU-051-B	2600107-14	SU-051	Horizon 2	Field Sample	01/29/2026	9.67		
SU-052-A	2600084-56	SU-052	Horizon 1	Field Sample	01/29/2026	11.8		
SU-052-B	2600084-57	SU-052	Horizon 2	Field Sample	01/29/2026	10.8		
SU-053-A	2600083-41	SU-053	Horizon 1	Field Sample	01/22/2026	20.6		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-053-B	2600083-42	SU-053	Horizon 2	Field Sample	01/22/2026	13.3		
SU-054-A	2600083-43	SU-054	Horizon 1	Field Sample	01/22/2026	27		
SU-054-B	2600083-44	SU-054	Horizon 2	Field Sample	01/22/2026	16.3		
SU-055-A	2600082-39	SU-055	Horizon 1	Field Sample	01/27/2026	9.35		7%
SU-055-A-R1	2600082-40	SU-055	Horizon 1	Field Triplicate	01/27/2026	8.91		
SU-055-A-R2	2600082-41	SU-055	Horizon 1	Field Triplicate	01/27/2026	8.12		
SU-055-B	2600082-42	SU-055	Horizon 2	Field Sample	01/27/2026	10.2		24%
SU-055-B-R1	2600082-43	SU-055	Horizon 2	Field Triplicate	01/27/2026	7.36		
SU-055-B-R2	2600082-44	SU-055	Horizon 2	Field Triplicate	01/27/2026	6.61		
SU-056-A	2600083-13	SU-056	Horizon 1	Field Sample	01/24/2026	426		
SU-056-B	2600083-14	SU-056	Horizon 2	Field Sample	01/24/2026	158		
SU-057-A	2600083-45	SU-057	Horizon 1	Field Sample	01/22/2026	32.9		
SU-057-B	2600083-46	SU-057	Horizon 2	Field Sample	01/22/2026	20.4		
SU-058-A	2600083-15	SU-058	Horizon 1	Field Sample	01/23/2026	62.7		
SU-058-B	2600083-16	SU-058	Horizon 2	Field Sample	01/23/2026	27.5		
SU-059-A	2600107-15	SU-059	Horizon 1	Field Sample	01/29/2026	12.9		
SU-059-B	2600107-16	SU-059	Horizon 2	Field Sample	01/29/2026	8.98		
SU-060-A	2600081-03	SU-060	Horizon 1	Field Sample	01/21/2026	38.7		27%
SU-060-A-R1	2600081-04	SU-060	Horizon 1	Field Triplicate	01/21/2026	25		
SU-060-A-R2	2600081-05	SU-060	Horizon 1	Field Triplicate	01/21/2026	25.1		
SU-060-B	2600081-06	SU-060	Horizon 2	Field Sample	01/21/2026	28.6		31%
SU-060-B-R1	2600081-07	SU-060	Horizon 2	Field Triplicate	01/21/2026	16.1		
SU-060-B-R2	2600081-08	SU-060	Horizon 2	Field Triplicate	01/21/2026	19		
SU-061-A	2600082-45	SU-061	Horizon 1	Field Sample	01/27/2026	14.8		
SU-061-B	2600082-46	SU-061	Horizon 2	Field Sample	01/27/2026	14.8		
SU-063-A	2600084-11	SU-063	Horizon 1	Field Sample	01/28/2026	54.4		
SU-063-B	2600084-12	SU-063	Horizon 2	Field Sample	01/28/2026	39.7		
SU-064-A	2600081-09	SU-064	Horizon 1	Field Sample	01/20/2026	13.4		
SU-064-B	2600081-10	SU-064	Horizon 2	Field Sample	01/20/2026	9.89		
SU-065-A	2600083-47	SU-065	Horizon 1	Field Sample	01/23/2026	39.8	45.3	52%
SU-065-A-R1	2600083-48	SU-065	Horizon 1	Field Triplicate	01/23/2026	101	89.2	
SU-065-A-R2	2600083-49	SU-065	Horizon 1	Field Triplicate	01/23/2026	49.3	48.5	
SU-065-B	2600083-50	SU-065	Horizon 2	Field Sample	01/23/2026	43.2		9%

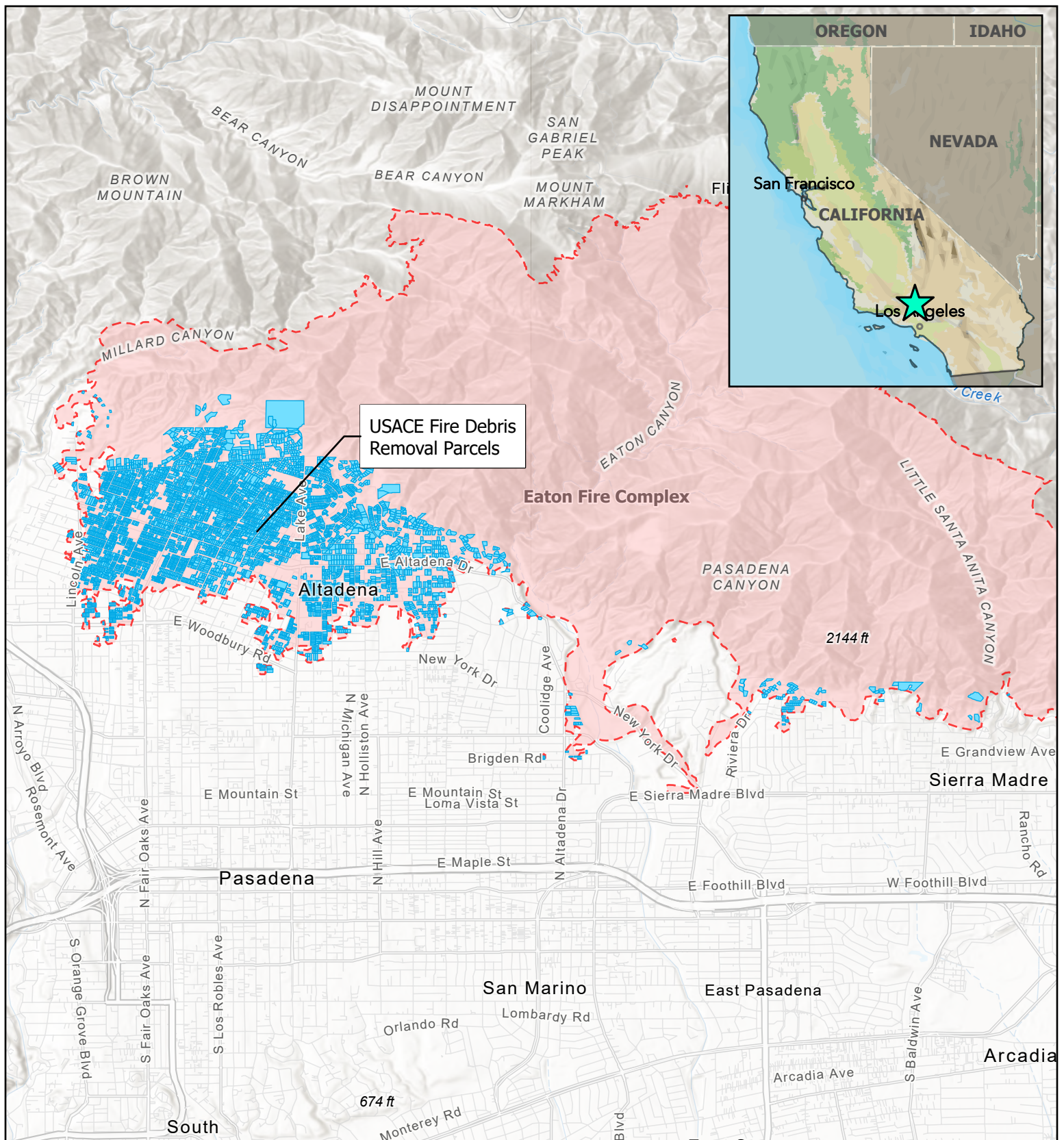
EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-065-B-R1	2600083-51	SU-065	Horizon 2	Field Triplicate	01/23/2026	41.5		
SU-065-B-R2	2600083-52	SU-065	Horizon 2	Field Triplicate	01/23/2026	36		
SU-066-A	2600084-13	SU-066	Horizon 1	Field Sample	01/28/2026	19.2		
SU-066-B	2600084-14	SU-066	Horizon 2	Field Sample	01/28/2026	12.7		
SU-067-A	2600084-58	SU-067	Horizon 1	Field Sample	01/28/2026	26.5		
SU-067-B	2600084-59	SU-067	Horizon 2	Field Sample	01/28/2026	14		
SU-068-A	2600083-17	SU-068	Horizon 1	Field Sample	01/23/2026	51		
SU-068-B	2600083-18	SU-068	Horizon 2	Field Sample	01/23/2026	129		
SU-069-A	2600083-53	SU-069	Horizon 1	Field Sample	01/22/2026	20.3		
SU-069-B	2600083-54	SU-069	Horizon 2	Field Sample	01/22/2026	14.2		
SU-071-A	2600084-15	SU-071	Horizon 1	Field Sample	01/28/2026	8.67		
SU-071-B	2600084-16	SU-071	Horizon 2	Field Sample	01/28/2026	15.1		
SU-072-A	2600084-60	SU-072	Horizon 1	Field Sample	01/29/2026	20.2		
SU-072-B	2600084-61	SU-072	Horizon 2	Field Sample	01/29/2026	12.8		
SU-073-A	2600081-49	SU-073	Horizon 1	Field Sample	01/21/2026	23.3		
SU-073-B	2600081-50	SU-073	Horizon 2	Field Sample	01/21/2026	18.3		
SU-074-A	2600084-62	SU-074	Horizon 1	Field Sample	01/28/2026	18		
SU-074-B	2600084-63	SU-074	Horizon 2	Field Sample	01/28/2026	9.53		
SU-076-A	2600083-19	SU-076	Horizon 1	Field Sample	01/23/2026	31.2		
SU-076-B	2600083-20	SU-076	Horizon 2	Field Sample	01/23/2026	20.9		
SU-077-A	2600081-11	SU-077	Horizon 1	Field Sample	01/21/2026	44.6		
SU-077-B	2600081-12	SU-077	Horizon 2	Field Sample	01/21/2026	34.1		
SU-078-A	2600084-17	SU-078	Horizon 1	Field Sample	01/28/2026	102	105	
SU-078-B	2600084-18	SU-078	Horizon 2	Field Sample	01/28/2026	28.8		
SU-079-A	2600081-13	SU-079	Horizon 1	Field Sample	01/20/2026	67.4		
SU-079-B	2600081-14	SU-079	Horizon 2	Field Sample	01/20/2026	17		
SU-080-A	2600082-47	SU-080	Horizon 1	Field Sample	01/26/2026	58.3 J	73.2 J	63%
SU-080-A-R1	2600082-48	SU-080	Horizon 1	Field Triplicate	01/26/2026	137	168	
SU-080-A-R2	2600082-49	SU-080	Horizon 1	Field Triplicate	01/26/2026	43.1	44.2	
SU-080-B	2600082-50	SU-080	Horizon 2	Field Sample	01/26/2026	48.3		11%
SU-080-B-R1	2600082-51	SU-080	Horizon 2	Field Triplicate	01/26/2026	40.7		
SU-080-B-R2	2600082-52	SU-080	Horizon 2	Field Triplicate	01/26/2026	39.7		
SU-081-A	2600082-53	SU-081	Horizon 1	Field Sample	01/27/2026	36		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-081-B	2600082-54	SU-081	Horizon 2	Field Sample	01/27/2026	27.9		
SU-082-A	2600082-55	SU-082	Horizon 1	Field Sample	01/27/2026	13.9		
SU-082-B	2600082-56	SU-082	Horizon 2	Field Sample	01/27/2026	13.5		
SU-083-A	2600107-17	SU-083	Horizon 1	Field Sample	01/29/2026	23.2		
SU-083-B	2600107-18	SU-083	Horizon 2	Field Sample	01/29/2026	12.3		
SU-084-A	2600081-51	SU-084	Horizon 1	Field Sample	01/22/2026	74.2		
SU-084-B	2600081-52	SU-084	Horizon 2	Field Sample	01/22/2026	23.9		
SU-085-A	2600084-19	SU-085	Horizon 1	Field Sample	01/27/2026	40.5		17%
SU-085-A-R1	2600084-20	SU-085	Horizon 1	Field Triplicate	01/27/2026	50.4		
SU-085-A-R2	2600084-21	SU-085	Horizon 1	Field Triplicate	01/27/2026	56.8		
SU-085-B	2600084-22	SU-085	Horizon 2	Field Sample	01/27/2026	22.4		27%
SU-085-B-R1	2600084-23	SU-085	Horizon 2	Field Triplicate	01/27/2026	35.4		
SU-085-B-R2	2600084-24	SU-085	Horizon 2	Field Triplicate	01/27/2026	23.2		
SU-086-A	2600084-25	SU-086	Horizon 1	Field Sample	01/28/2026	16.1		
SU-086-B	2600084-26	SU-086	Horizon 2	Field Sample	01/28/2026	37.6		
SU-087-A	2600083-21	SU-087	Horizon 1	Field Sample	01/23/2026	37.8		
SU-087-B	2600083-22	SU-087	Horizon 2	Field Sample	01/23/2026	27.1		
SU-088-A	2600081-53	SU-088	Horizon 1	Field Sample	01/21/2026	61.1		
SU-088-B	2600081-54	SU-088	Horizon 2	Field Sample	01/21/2026	33.8		
SU-089-A	2600083-55	SU-089	Horizon 1	Field Sample	01/23/2026	188		
SU-089-B	2600083-56	SU-089	Horizon 2	Field Sample	01/23/2026	207		
SU-090-A	2600081-15	SU-090	Horizon 1	Field Sample	01/20/2026	10		53%
SU-090-A-R1	2600081-16	SU-090	Horizon 1	Field Triplicate	01/20/2026	24.8		
SU-090-A-R2	2600081-17	SU-090	Horizon 1	Field Triplicate	01/20/2026	11.3		
SU-090-B	2600081-18	SU-090	Horizon 2	Field Sample	01/20/2026	148	159	147%
SU-090-B-R1	2600081-19	SU-090	Horizon 2	Field Triplicate	01/20/2026	8.93	9.61	
SU-090-B-R2	2600081-20	SU-090	Horizon 2	Field Triplicate	01/20/2026	7.95	8.93	
SU-091-A	2600083-23	SU-091	Horizon 1	Field Sample	01/24/2026	28.7		
SU-091-B	2600083-24	SU-091	Horizon 2	Field Sample	01/24/2026	15.5		
SU-092-A	2600082-57	SU-092	Horizon 1	Field Sample	01/27/2026	356		
SU-092-B	2600082-58	SU-092	Horizon 2	Field Sample	01/27/2026	13.9		
SU-093-A	2600084-64	SU-093	Horizon 1	Field Sample	01/28/2026	21.4		
SU-093-B	2600084-65	SU-093	Horizon 2	Field Sample	01/28/2026	20.4		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-095-A	2600084-27	SU-095	Horizon 1	Field Sample	01/27/2026	25.4		10%
SU-095-A-R1	2600084-28	SU-095	Horizon 1	Field Triplicate	01/27/2026	24.1		
SU-095-A-R2	2600084-29	SU-095	Horizon 1	Field Triplicate	01/27/2026	29.2		
SU-095-B	2600084-30	SU-095	Horizon 2	Field Sample	01/27/2026	< 4.98 U		12%
SU-095-B-R1	2600084-31	SU-095	Horizon 2	Field Triplicate	01/27/2026	15		
SU-095-B-R2	2600084-32	SU-095	Horizon 2	Field Triplicate	01/27/2026	17.8		
SU-096-A	2600083-25	SU-096	Horizon 1	Field Sample	01/24/2026	52.9		
SU-096-B	2600083-26	SU-096	Horizon 2	Field Sample	01/24/2026	40.1		
SU-097-A	2600084-66	SU-097	Horizon 1	Field Sample	01/28/2026	18.1		
SU-097-B	2600084-67	SU-097	Horizon 2	Field Sample	01/28/2026	8.93		
SU-098-A	2600084-68	SU-098	Horizon 1	Field Sample	01/29/2026	33.9		
SU-098-B	2600084-69	SU-098	Horizon 2	Field Sample	01/29/2026	11.6		
SU-100-A	2600081-21	SU-100	Horizon 1	Field Sample	01/21/2026	86.8	83.2	12%
SU-100-A-R1	2600081-22	SU-100	Horizon 1	Field Triplicate	01/21/2026	95.7	99.2	
SU-100-A-R2	2600081-23	SU-100	Horizon 1	Field Triplicate	01/21/2026	75.2	71.8	
SU-100-B	2600081-24	SU-100	Horizon 2	Field Sample	01/21/2026	45.4	45.5	54%
SU-100-B-R1	2600081-25	SU-100	Horizon 2	Field Triplicate	01/21/2026	75.2	76.9	
SU-100-B-R2	2600081-26	SU-100	Horizon 2	Field Triplicate	01/21/2026	23.8	26.2	
SU-101-A	2600083-27	SU-101	Horizon 1	Field Sample	01/24/2026	19.2		
SU-101-B	2600083-28	SU-101	Horizon 2	Field Sample	01/24/2026	15.1		
SU-102-A	2600107-19	SU-102	Horizon 1	Field Sample	01/29/2026	39.6 J	53.7 J	
SU-102-B	2600107-20	SU-102	Horizon 2	Field Sample	01/29/2026	27.6		
SU-103-A	2600107-21	SU-103	Horizon 1	Field Sample	01/29/2026	21.2		
SU-103-B	2600107-22	SU-103	Horizon 2	Field Sample	01/29/2026	8.82		
SU-104-A	2600084-33	SU-104	Horizon 1	Field Sample	01/28/2026	20.4		
SU-104-B	2600084-34	SU-104	Horizon 2	Field Sample	01/28/2026	15.3		
SU-105-A	2600082-59	SU-105	Horizon 1	Field Sample	01/26/2026	23.4		4%
SU-105-A-R1	2600082-60	SU-105	Horizon 1	Field Triplicate	01/26/2026	22.1		
SU-105-A-R2	2600082-61	SU-105	Horizon 1	Field Triplicate	01/26/2026	23.7		
SU-105-B	2600082-62	SU-105	Horizon 2	Field Sample	01/26/2026	42.8		20%
SU-105-B-R1	2600082-63	SU-105	Horizon 2	Field Triplicate	01/26/2026	28.7		
SU-105-B-R2	2600082-64	SU-105	Horizon 2	Field Triplicate	01/26/2026	39.5		
SU-106-A	2600082-65	SU-106	Horizon 1	Field Sample	01/27/2026	15		

EPA Sample ID	Laboratory Sample ID	Sampling Unit	Decision Unit	Sample Type	Sample Date	Lead Result (mg/kg)	Reanalysis Result (mg/kg)	Replicate RSD
SU-106-B	2600082-66	SU-106	Horizon 2	Field Sample	01/27/2026	14.5		
SU-108-A	2600084-70	SU-108	Horizon 1	Field Sample	01/29/2026	19.4		
SU-108-B	2600084-71	SU-108	Horizon 2	Field Sample	01/29/2026	19		
SU-109-A	2600084-72	SU-109	Horizon 1	Field Sample	01/29/2026	14.2		
SU-109-B	2600084-73	SU-109	Horizon 2	Field Sample	01/29/2026	8.46		
SU-111-A	2600107-23	SU-111	Horizon 1	Field Sample	01/29/2026	11.7		
SU-111-B	2600107-24	SU-111	Horizon 2	Field Sample	01/29/2026	8.77		
SU-112-A	2600084-74	SU-112	Horizon 1	Field Sample	01/29/2026	19.5		
SU-112-B	2600084-75	SU-112	Horizon 2	Field Sample	01/29/2026	12.1		
SU-113-A	2600084-76	SU-113	Horizon 1	Field Sample	01/29/2026	31.6		
SU-113-B	2600084-77	SU-113	Horizon 2	Field Sample	01/29/2026	10.6		
SU-114-A	2600084-78	SU-114	Horizon 1	Field Sample	01/29/2026	18.4		
SU-114-B	2600084-79	SU-114	Horizon 2	Field Sample	01/29/2026	9.13		
SU-115-A	2600084-35	SU-115	Horizon 1	Field Sample	01/27/2026	19.3		6%
SU-115-A-R1	2600084-36	SU-115	Horizon 1	Field Triplicate	01/27/2026	19.7		
SU-115-A-R2	2600084-37	SU-115	Horizon 1	Field Triplicate	01/27/2026	17.5		
SU-115-B	2600084-38	SU-115	Horizon 2	Field Sample	01/27/2026	15.4		16%
SU-115-B-R1	2600084-39	SU-115	Horizon 2	Field Triplicate	01/27/2026	17.3		
SU-115-B-R2	2600084-40	SU-115	Horizon 2	Field Triplicate	01/27/2026	12.4		
SU-206-A	2600084-80	SU-206	Horizon 1	Field Sample	01/28/2026	16.2		
SU-206-B	2600084-41	SU-206	Horizon 2	Field Sample	01/28/2026	11.9		
J = Result is an estimated quantity J- = Result is an estimated quantity, but may be biased low mg/kg = milligrams per kilogram ND = Not Detected RSD = Relative Standard Deviation U = Analyte was not detected above the level of the detection limit Bold = Result greater than DTSC Human Health Risk Assessment Screening Level for Residential Soils (DTSC-SL) of 80 mg/kg Bold Red = Result greater than EPA Regional Screening Level for Residential Soils (RSL) of 200 mg/kg								

Figures



0 0.5 1 2 Miles

Basemap:
ESRI World Topographic Map

Coordinate System:
GCS WGS 1984

April 2026

Legend

 Eaton Fire Boundary

 USACE Fire Debris Removal Parcels

USACE = United States Army Corps of Engineers



EPA Region 9



Weston Solutions Inc.

FIGURE 1
PROJECT LOCATION MAP
Eaton Wildfire
Phase 2 Removal Footprint
Lead Sampling
Los Angeles County, CA



0 5 10 20
Feet

Basemap:
ESRI World Imagery
Coordinate System:
GCS WGS 1984
April 2026

Legend

-  Sampling Unit (Excavation Boundary)
-  Parcel Boundary
- ISM Sample Aliquot Locations
 -  Field Sample Aliquot
 -  ISM Triplicate Aliquot



PREPARED BY:
Weston Solutions, Inc.



PREPARED FOR:
EPA Region 9

FIGURE 3
EXAMPLE SAMPLING UNIT LAYOUT
Eaton Wildfire
Phase 2 Removal Footprint Lead Sampling
Los Angeles County, CA