# ADDENDUM TO THE NOVEMBER 18, 2015 FINAL WORKPLAN SAMPLING AND ANALYSIS OF PROPERTIES IN THE VICINITY OF THE EXIDE FACILITY (VERNON, CALIFORNIA)

Prepared for



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March 9, 2016

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#### ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
Cal-EPA	California Environmental Protection Agency
CCR	California Code of Regulations
CFR	Code of Federal Regulations
COC	chain-of-custody
DQO	Data Quality Objective
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ft	feet
GPS	global positioning system
IRMW	Interim Remedial Measures Workplan
LAUSD	Los Angeles Unified School District
LBP	lead-based paint
mg/kg	milligrams per kilogram
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
POC	point of contact
PPE	personal protective equipment
PSHEP	Project Safety Health and Environmental Plan
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
SOW	scope of work
Workplan	Site Characterization Workplan

# **1** INTRODUCTION AND BACKGROUND

# 1.1 Introduction

Parsons previously prepared a workplan, Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, California; Sampling Workplan; (Parsons, 2015a) at the request of the Department of Toxic Substances Control (DTSC) to address the sampling and analysis at 1,000 residential and sensitive-use properties located near the former Exide Technologies (Exide) battery recycling facility in Vernon, California. Lead emissions from the former Exide facility are suspected of affecting surface and near-surface soils in surrounding areas as a result of aerial deposition. The Workplan, dated November 18, 2015, was subsequently approved by the DTSC on November 18, 2015, and sampling of residential properties began on November 28, 2015, and have been ongoing since that time.

On December 15, 2015, Parsons was tasked by the DTSC to prepare this Sampling Addendum to the Sampling Workplan to support characterization of schools and parks within the Preliminary and Expanded Investigation Areas. In general, the site assessment approach and methodologies outlined in the Sampling Workplan will also be used for the schools and parks investigation. The goal of this investigation is to identify any school or park properties that contain elevated concentrations of lead in soil. If necessary, DTSC will work with the school/park stakeholders to develop an addendum to the DTSC-approved Interim Remedial Measures Workplan (IRMW; Remediation Addendum). The Remediation Addendum will outline the procedures for removing the affected soil and performing site restorations at school and park properties and will describe the criteria used to prioritize soil removal at sampled schools and parks.

This Sampling Addendum is organized as follows: Section 1 presents the introduction, background, and scope of work (SOW). Section 2 presents the pre-investigation activities. Section 3 presents the planned field sampling and data collection activities. Section 4 presents the reporting structure. Section 5 presents references cited in this Sampling Addendum.

# 1.2 Background

The Exide facility is located at 2700 South Indiana Street in the City of Vernon, California. This industrial property occupies approximately 15 acres and is bounded by South Indian Street to the west, 26th Street to the north, Bandini Boulevard (Bandini) to the south, and industrial properties to the east. The facility was formerly used for lead battery recycling. The area immediately surrounding the facility is also industrial.

Soil lead concentrations in the areas surrounding the Exide facility generally exceed the California Environmental Protection Agency (Cal-EPA) Office of Environmental Health Hazard Assessment (OEHHA) residential soil-screening value of 80 mg/kg. DTSC has determined that sampling of properties within a radius of 1.7 miles of Exide Industries facilities is warranted. Details of the rationale for the sampling in the expanded area are presented in Parsons Workplan, dated November 18, 2015, and approved by the DTSC on November 18, 2015. Other potential lead sources that can affect the soils in area surrounding the former Exide facility include deposition from leaded-fuel combustion emissions (e.g., from gasoline combustion prior to lead phase-out) and from lead-based paint (LBP) that is present on virtually most structures in these areas.

As part of Exide's off-site soil sampling program, soil samples were collected at various schools and parks within the Expanded Assessment Area and were analyzed for lead as described in the Addendum to the November 15, 2013, Work Plan for Off-Site Soil Sampling (Advanced GeoServices, 2014). The soil sampling consisted of five sampling locations at each school and park, and it targeted play areas with grassy or bare soil. Sixteen schools were sampled, including Salazar Park, which was designated as a school. In addition, sampling was conducted at four parks in the area surrounding the former Exide facility. The schools were designated as SCH-01 through SCH-16; the parks were identified as PAR-01 through PAR-04. The sampling was conducted between August 27, 2014, and March 31, 2015. Composite soil sampling was performed for each of the five soil-depth intervals (0–1, 1–3, 3–6, 6–12, and 12–18 inches below ground surface [bgs]) at five boring locations at each school and park.

Sampling results for 11 Los Angeles Unified School District (LAUSD) schools (designated SCH-06 through SCH-16) were documented in Advanced GeoServices, 2015c. (Note: School IDs SCH-01 through SCH-05 are associated with schools not owned by the LAUSD.) Sampling results for the other schools and parks were documented in the Expanded Northern and Southern Sampling Areas Sampling Results Report (Advanced GeoServices, 2015b). Results for Parque de los Sueños in Los Angeles County (designated PAR-04) were documented in Advanced GeoServices (2015a).

#### **1.3 Scope of Work**

The current investigation represents an extension of the previous soil sampling conducted at schools and parks described in Section 1.2. The following scope of work (SOW) is addressed in this Addendum and will be implemented at each school and park property identified by the DTSC for inclusion in this investigation:

Conduct soil sample screening at each school and park property at five locations generally consistent with the approach previously used for school and park sampling (AGS, 2014). Composite soil samples will be created for each of four depth intervals (0 to 3 inches, 3 to 6 inches, 6 to 12 inches, and 12 to 18 inches) and analyzed for lead by a fixed laboratory using Method 6010B.

The previous school and park sampling (AGS, 2015a, b, and c) involved collection and compositing of soil samples from 0 to 1 inches and from 1 to 3 inches in depth. Based on a review of previously collected data, the composite lead results from these two depth intervals are generally consistent in samples where the 95 percent UCL concentration exceeded 80 mg/kg. Therefore, soil samples will be collected from the combined 0 to 3 inch interval instead of separate 0 to 1 and 1 to 3 inch samples.

# 2 PRE-INVESTIGATION ACTIVITIES

## 2.1 Health and Safety

Parsons and its subcontractors are responsible for operating in accordance with the most current requirements of Title 8, California Code of Regulations (CCR) Section 5192 (8 CCR 5192); and Title 29, Code of Federal Regulations (CFR) Section 1910.120 (29 CFR 1910.120), Standards for Hazardous Waste Operations and Emergency Response. Onsite personnel are responsible for operating in accordance with all applicable regulations of the Occupational Safety and Health Administration (OSHA) outlined in 8 CCR General Industry and Construction Safety Orders; 29 CFR 1910; and 29 CFR 1926, Construction Industry Standards; and with other applicable federal, state, and local laws and regulations. All personnel must operate in compliance with all California OSHA requirements.

A project-specific health and safety plan (Parsons, 2015b) has been prepared in compliance with above regulations and DTSC health and safety requirements. As minimum safety requirements for the work, all subcontractors must evaluate job hazards analyses, prepare a site-specific subcontractor health and safety plan, and review and accept the Parsons Project Safety Health and Environmental Plan (PSHEP). The field superintendent and the project managers are authorized to issue a stop work order at any time if deemed necessary due to safety concerns. Each site worker will attend a detailed project orientation on the first day of work, and all workers will attend daily tailgate meetings. Activity hazards analyses will be reviewed daily at the tailgate meetings in order to inform each employee of potential hazards associated with each job step (e.g., exposure to site contaminants, biological hazards, and traffic). Due to the low-risk nature of the SOW, job tasks are anticipated to be conducted in Level D personal protective equipment (PPE).

Particular attention will be given to minimizing impacts to school and park occupants, their surrounding neighbors, and the public. This will include establishing clear work zones and areas where the public may not enter. If requested, work on school sites will be conducted on days when the school will not be occupied (e.g., Saturdays).

For site workers, exposure to lead in soil is anticipated to be of low risk for this project. No dust will be generated as part of the sampling activities because soil disturbance will be minimal. Therefore, exposure due to inhalation is not of concern. Exposure due to ingestion may pose a risk, but it can be easily mitigated by proper use of Level D PPE. Workers will be required to wear steel-toed work boots, chemically resistant gloves, high-visibility vests, and hard hats to constitute their Level D PPE. Handling of soil, soil samples, and sampling equipment is only allowed while wearing chemically resistant gloves, or work gloves worn over chemically resistant gloves. After the sampling activity is completed, the chemically resistant gloves will be discarded and hand washing will be required. In addition, to prevent contamination from being tracked off site, work boots will be decontaminated by brushing off any loose soil on site and washing the boots with water.

## 2.2 Regulatory Clearances

The sampling activities will be conducted within schools and public parks; therefore, no permit requirements are necessary with the local jurisdictions. If necessary, encroachment permits will be obtained from the local municipality if equipment will be present within public rights-of-way and/or if "No Parking" areas must be established.

# 2.3 Project Team

The same project team members and points of contact (POCs) outlined in Section 2.3 of the Sampling Workplan (Parsons, 2015a) will be responsible for this sampling effort.

## **3 FIELD INVESTIGATION ACTIVITIES**

The field investigation methods are designed to meet the overall objectives of the SOW as described in Section 1.3. The sampling strategy, field and laboratory methodologies, and quality assurance/quality control (QA/QC) measures to provide data of sufficient quantity and quality are described in this section. A Quality Assurance Project Plan (QAPP) and Data Quality Objectives (DQOs) have also been developed by (Parsons, 2015a). In general, field investigation will follow the approaches outlined in the Sampling Workplan. Additional details and deviations specific to the school and park soil investigation are outlined below.

## 3.1 Property Access

All property access agreements will be handled by the DTSC for the schools and parks project. Parsons will only mobilize to a property after an access agreement has been negotiated and signed by each school/park representative and a date and time has been scheduled for sampling by the DTSC. The Parsons field team will maintain a copy of each access agreement in the field. A Parsons representative, in conjunction with a DTSC representative, will contact the school-/park-designated representative prior to the scheduled start of field activities to ensure that each school/park representative is aware of the project schedule and anticipated activities. If any questions or concerns are raised by the school/park representative, the DTSC Project Manager will be contacted. If requested, school properties will be sampled on non-occupancy days. Parks will be targeted for weekday sampling.

### 3.2 Utility Clearance

If necessary, utility clearance work will be performed as described in the Sampling Workplan (<u>Parsons, 2015a</u>).

## 3.3 Sampling

#### 3.3.1 Soil Screening with XRF

XRF analyses will not be performed at school and park properties.

#### 3.3.2 Soil Laboratory Sample Collection

#### Soil Sample Location Selection and Sample Collection

The following steps will be taken to select the soil sample locations:

- 1. Schools and parks will be sampled consistent with the approach previously used for school and park sampling (AGS, 2014). Five (5) soil sampling locations at each school and park will be determined in the field and will target grassy or bare soil areas in play areas. The locations will be as evenly spaced as possible to achieve coverage of the area with a preference for grassy or bare soils and areas where children have the most risk of exposure. The five soil sampling locations will be determined in the field in collaboration with representatives from the LAUSD, and DTSC and/or its representatives.
- 2. Sample locations will target areas away from structures and thick trees. If no soil areas exist in the play areas, the sample locations will be moved to other areas of

the school property. Children's play areas will be targeted for sampling within the designated parks. Play areas include playgrounds, recreational equipment (e.g., slides, swings, etc.) or other areas determined to be specific for young children.

- 3. To ensure that the sampling locations represent locations of maximum aerial deposition, soil will not be collected in the following areas: within areas that were recently disturbed; within 2 feet (ft) of a roadway; within 5 ft of potential property-specific contamination sources (e.g., trash, burning areas, or waste storage areas); beneath crushed stone, dirt, or gravel driveways, or beneath parking areas. For schools where playground areas are predominantly asphalt, soil samples will be collected from tree wells or other landscaped areas. Soils beneath asphalt, synthetic turf, or concrete will not be sampled. In addition, gravel infield areas will not be sampled.
- 4. Soil samples will be collected at each of the five boring locations at five discrete depth intervals (0 to 3 inches, 3 to 6 inches, 6 to 12 inches, and 12 to 18 inches). Discrete soil samples will be submitted to the fixed laboratory and a composite sample will be prepared by the fixed laboratory for each of these five depth intervals. The composite soil sample will be retained and archived by the laboratory. Discrete soil samples will be analyzed for any depth interval where the composite sample result exceeds 80 mg/kg.
- 5. All reusable equipment, such as hand trowels, sieves, and bucket augers, will be decontaminated. Chemically resistant gloves will be worn during all sampling operations. All particulate matter and surface films will be removed with water. Reusable sampling equipment will be first washed in a water/Alconox solution and then rinsed with clean water. Decontaminated equipment will be properly covered and stored prior to use at the next sampling location to prevent cross-contamination.
- 6. The location of each sample will be measured from a reference point at the property and marked on a field sketch. In addition, coordinates of each soil sampling location will be recorded using a global positioning system (GPS) unit. GPS coordinates of each sampling location will also be recorded in the field notes.

These field procedures may be modified based on the soil conditions encountered. Sampling locations near potential presence of non-aerial depositional sources such as stains, debris, burn pits, or peeling paint will also be carefully documented in notes and by photograph.

Discrete soil samples will be collected and placed in new glass jars provided by the laboratory. Each jar will be labeled with the corresponding sample identification (ID), time, date, project name, and client name. All soil samples will be bubble wrapped, placed in Ziploc bags, and stored under ice in a cooler. The soil samples will be submitted to a designated analytical laboratory under a chain-of-custody (COC) record. The laboratory will be certified in the state of California and certified by the Environmental Laboratory Accreditation Program (ELAP). All soil samples will be analyzed for lead using EPA Method 6010B. Soil samples will be analyzed within no more than a 2-week turnaround time. Standard Level 1 electronic data packages will be provided by the laboratory. The laboratory will retain all discrete and composite soil samples until the data evaluation is complete.

#### Quality Assurance / Quality Control

QA/QC procedures outlined in the Sampling Workplan (<u>Parsons, 2015a</u>), which includes field duplicates, equipment blanks, and matrix spike/matrix spike duplicate samples, will be followed.

#### 3.3.3 Lead-Based Paint Testing

No LBP sampling of building interiors or exteriors will be performed as part of the schools and parks sampling effort.

#### **3.3.4** Sample ID Designation

Samples will be identified first by a unique school or park identification number and a unique sample identification number. School and park identification numbers assigned for this sampling are listed in Tables 1 and 2. Soil sample identification numbers will also include the bottom depth of the sampling interval. The following is an example of the sampling nomenclature:

<u>Laboratory Soil Samples</u> (School ID Number – Sample Number – Bottom Depth of Sample Interval) PSCH-01-01-03 (for 0 to 3 inches) PSCH-01-01-06 (for 3 to 6 inches) PSCH-01-01-12 (for 6 to 12 inches) PSCH-01-01-18 (for 12 to 18 inches)

Duplicate samples will be collected for samples submitted to the laboratory. All duplicate samples will be identified with a "D", for example, PSCH-01-01-3D.

Other QA samples will have the following IDs: Trip Blanks – (*TP-Property Number-Date*) TP-PSCH-01-111715 Equipment Blanks – (*EB-Property Number-Date*) EB-PSCH-01-111715

Composite samples will be designated by the laboratory for each depth interval using the following sample ID:

(School ID Number – COMP – Bottom Depth of Sample Interval) PSCH-01-COMP-03 (composite for 0 to 3 inches)

#### 3.3.5 Sampling Equipment

The same type of equipment described in the Sampling Workplan (<u>Parsons, 2015a</u>) will be used for the schools/parks sampling effort.

#### **3.3.6** Documentation

The same documentation strategies outlined in the Sampling Workplan (<u>Parsons, 2015a</u>) will be used for this sampling effort. This includes the keeping of field logbooks, chain-of-custody

documentation, photographs, and sketches. Given the larger size of schools and parks compared to residential properties, greater attention will be given to taking hand measurements of soil sampling locations relative to known reference locations (e.g., buildings and sidewalks). GPS measurements of soil sampling locations will also be recorded in the field.

# 4 REPORTING AND DELIVERABLES

Sampling reports will be provided for each school and park property. Sampling reports will include the same elements outlined for the Sampling Workplan (<u>Parsons, 2015a</u>).

### 5 **REFERENCES**

- Advanced GeoServices, 2014. Revised Addendum to the November 15, 2013 Work Plan for Off-Site Soil Sampling Exide Technologies Vernon, California. Revised July 26.
- Advanced GeoServices, 2015a. Letter from Barbara L. Forslund to Ms. Diane Thorne, Los Angeles County Department of Parks and Recreation RE: Soil Sampling Results, Parque de los Sueños. (with attached letter report from Avocet Environmental, Inc. dated April 29, 2015). April 30.
- Advanced GeoServices, 2015b. Expanded Northern and Southern Sampling Areas Sampling Results Report Exide Technologies Vernon, California. April 20.
- Advanced GeoServices, 2015c. Letter from Barbara L. Forslund to Pat Schanen (LAUSD) RE: Revised Report on LAUSD K-12 School Sampling Select Areas of Maywood, Huntington Park and Los Angeles, California (with attached letter report from Avocet Environmental, Inc. dated July 30, 2015). July 31.
- EPA, 2007. Method 6200, Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment, Department of Toxic Substances Control. February 2007.
- Parsons, 2015a. Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, California). November 18. <u>https://www.envirostor.dtsc.ca.gov/public/final\_documents2.asp?global\_id=60002267&do</u> <u>c\_id=60403423</u>
- Parsons, 2015b. Exide Technologies Off-site Remediation and Restoration, Project Safety, Health, and Environmental Plan. November.