

**PRELIMINARY ENVIRONMENTAL ASSESSMENT
NORTHLAKE SCHOOL SITE
NORTHWEST OF INTERSTATE 5 AND HIGHWAY 99
SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA
(SITE CODE: 104827)**



Prepared for:

TWIN RIVERS UNIFIED SCHOOL DISTRICT

December 2020



ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

December 17, 2020
Project Number: 1701-2122

Jose Luevano, Project Manager
California Department of Toxic Substances Control
Northern California Schools Unit
8800 Cal Center Drive
Sacramento, California 95826-3200

Subject: Preliminary Environmental Assessment, Northlake School Site, Sacramento, Sacramento County, California (Site Code: 104827)

Dear Mr. Luevano:

Padre Associates, Inc. (Padre), on behalf of the Twin Rivers Unified School District, has prepared this Preliminary Environmental Assessment (PEA) report for the proposed Northlake School Site located northwest of Interstate 5 and Highway 99 in Sacramento, Sacramento County, California (Project Site).

The PEA has been conducted in accordance with the Padre document titled, *Preliminary Environmental Assessment Workplan, Northlake School Site, Northwest of Interstate 5 and Highway 99 in Sacramento, Sacramento County, California (Site Code: 104827)* dated October 2020. The PEA Work Plan received approval by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) in a letter dated October 20, 2020.

The PEA results report will be made available to the public for review and comment pursuant to Option A of the California Education Code (CEC) §17213.1.a (6) (A). If you have any questions or comments please contact the undersigned at (916) 333-5920.



Alan Churchill, P.G.
Project Geologist

Sincerely,
PADRE ASSOCIATES, INC.

Matt Miller, G.I.T.
Staff Geologist

Alan J. Klein, R.E.P.A., C.P.E.S.C., QSD/QSP
Senior Environmental Scientist

CC: Perry Herrera, Director of Facilities Construction & Engineering, Twin Rivers USD
Tina Cullors, Associate, Eric Hall & Associates

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EXECUTIVE SUMMARY

Padre Associates, Inc. (Padre), on behalf of the Twin Rivers Unified School District (District), has prepared this Preliminary Environmental Assessment (PEA) report for the proposed Northlake school site located northwest of the intersection of Interstate 5 and Highway 99 in Sacramento, Sacramento County, California (Project Site).

The Northlake School Site consists of approximately 16.8-acres of vacant land and is a planned K-8 school designed with 49 classrooms for 963 students, with a potential capacity for 1,063 students. The projected opening is July 2024. The proposed city park located northwest and adjacent to the Project Site will not be included as joint-use with the school site.

The Project Site consists of approximately 16.8 acres of vacant land located north of Interstate 5 and west of State Highway 99 in Sacramento, Sacramento County, California. The Project Site is comprised of a portion of two parcels of land identified by the City and County of Sacramento as assessor parcel numbers (APNs): 201-0300-049 and 201-0300-071. The portion of the Project Site identified to be a part of APN 201-0300-049 is approximately 0.8 acres, and the portion identified to be on APN 201-0300-071 is approximately 16 acres. The Twin Rivers Unified School District is listed as the current legal owner (May 2018).

The Project Site is bordered to the north by agricultural fields and residential development, beyond which is Elkhorn Boulevard; to the east by agricultural fields, beyond which is State Highway 99; to the south by agricultural fields, beyond which is Interstate 5; and to the west by agricultural fields.

The PEA was conducted in accordance with the Padre document titled *Preliminary Environmental Assessment Workplan, Northlake School Site, Northwest of Interstate 5 and highway 99, Sacramento, Sacramento County, California (Site Code: 104827)* dated October 2020. The PEA Work Plan received approval by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) in a letter dated October 20, 2020.

This PEA Report will be made available to the public for review and comment pursuant to Option A of the California Education Code (CEC) §17213.1.a (6)(A).

The purpose of the PEA was to establish whether a release or potential release of hazardous substances or naturally occurring material, which would pose a threat to human health via ingestion, dermal contact, and inhalation exposure pathways, exists at the Project Site. Chemicals of potential concern (COPCs) identified at the Project Site included residual pesticides, arsenic and lead from historic agricultural land use.

The findings of the PEA identified that arsenic concentrations ranged from 4.2 to 10 milligram per kilogram (mg/kg) in soil samples collected from across the Project Site, with a calculated 95% upper confidence level (UCL) of 6.05 mg/kg. Project Site arsenic concentrations in soil were compared to a background arsenic data set that consisted of arsenic

concentrations ranging from 2.6 to 9.9 mg/kg in soil. The arsenic data sets are comparable. Therefore, further assessment and/or remedial action for arsenic in soil is not warranted.

Lead concentrations ranged from 6.7 to 14 mg/kg in soil samples collected at the Project Site. A risk assessment was performed using the DTSC lead risk assessment spreadsheet model (*LeadSpread Version 8*). Based on the LeadSpread output using the highest concentration (14 mg/kg), exposure to lead concentrations detected at the Project Site could result in a 90th percentile blood lead concentration of 0.4 micrograms per deciliter ($\mu\text{g}/\text{dl}$) in children (pica child) which does not exceed the Office of Environmental Health Hazard Assessment (OEHHA) blood toxicity level of 1 $\mu\text{g}/\text{dl}$. Therefore, further assessment and/or remedial action for lead in soil is not warranted.

The total risk identified in soil at the Project Site from the presence of OCPs was estimated to be 1.9×10^{-8} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from OCPs identified in soils at the Project Site was estimated to be 0.00098, which does not present an increased health hazard (i.e., >1). Therefore, further assessment and/or remedial action for OCPs in soil is not warranted.

The PEA screening level risk assessment indicates that the Project Site has not been significantly impacted by historic agricultural practices. Therefore, Padre recommends the issuance of a “No Further Action” designation from the DTSC regarding the proposed Northlake school site.

1.0 INTRODUCTION

Padre Associates, Inc. (Padre), on behalf of the Twin Rivers Unified School District (District), has prepared this Preliminary Environmental Assessment (PEA) report for the proposed Northlake school site located northwest of the intersection of Interstate 5 and Highway 99 in Sacramento, Sacramento County, California (Project Site). The Project Site is identified on **Plate 1-1: Site Location** and **Plate 1-2: Site Map**.

The Northlake School Site consists of approximately 16.8-acres of vacant land and is a planned K-8 school designed with 49 classrooms for 963 students, with a potential capacity for 1,063 students. The planned opening is July 2024. The proposed city park located northwest and adjacent to the Project Site will not be included as joint-use with the school site.

The PEA was conducted in accordance with the following Padre documents:

- *Preliminary Environmental Assessment Workplan, Northlake School Site, Northwest of Interstate 5 and Highway 99, Sacramento, Sacramento County, California (Site Code: 104827)* dated October 2020.

The PEA Work Plan was approved by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) in a letter dated October 20, 2020. A copy of the DTSC approval letter is presented in **Appendix A**.

This PEA Report will be made available to the public for review and comment pursuant to Option A of the California Education Code (CEC) §17213.1.a(6)(A).

1.1 PURPOSE

California Department of Education statutes (Assembly Bill 387, Senate Bill 162 and Assembly Bill 2644) require the CalEPA/DTSC to review environmental assessments for proposed new school sites and/or new construction school expansion projects. The role of the DTSC is to ensure that selected properties do not contain hazardous substances or naturally occurring materials that are a threat to public health and the environment.

1.2 OBJECTIVES

This PEA was conducted consistent with the DTSC guidance manual for evaluation of hazardous substance release sites titled *Preliminary Endangerment Assessment Guidance Manual*, State of California, Environmental Protection Agency, January 1994 (Revised October 2015). Pursuant to the Health and Safety Code §25355.5 (a) (1) (C), the activities performed were to fulfill the requirements of the Environmental Oversight Agreement (EOA) issued to the school district by CalEPA/DTSC.

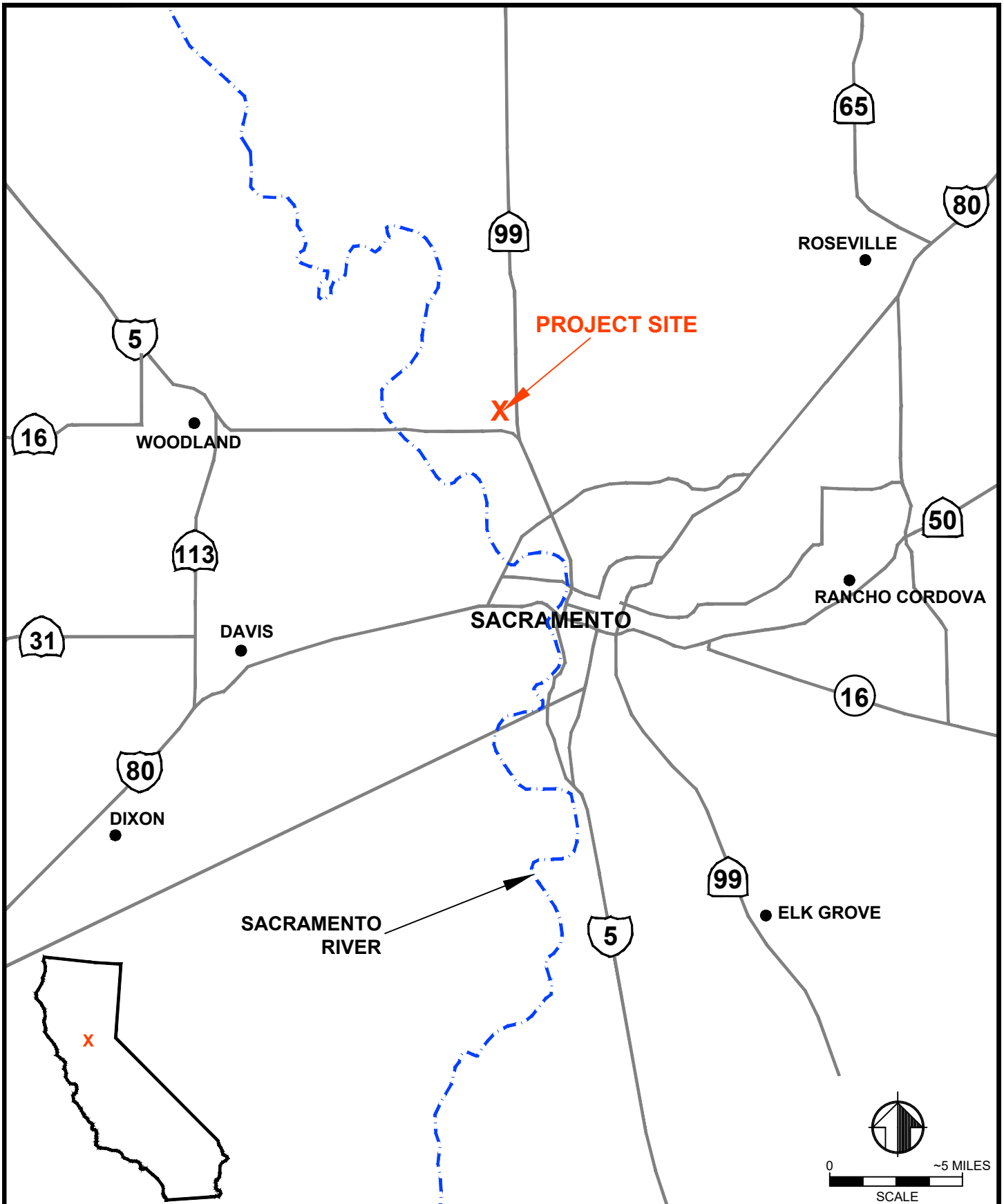
The objectives of the PEA included:

- Evaluating historical information for indications of past use, storage, disposal, and/or release of hazardous substances at the Project Site;

-
- Establishing through a field sampling and laboratory analysis program, the nature, concentration, and general extent of hazardous substances that may be present in soil and/or groundwater at the Project Site; and
 - Estimating the potential threat to public health and the environment presented by hazardous constituents identified at the property and providing an indicator of relative risk using a residential land-use scenario.

Based on information developed during the course of the PEA and the conservative human and ecological risk evaluation using the DTSC's *PEA Guidance Manual*, January 1994, (Revised October 2015), DTSC will then make an informed decision regarding potential risks posed by the Project Site.

Possible outcomes of the PEA decision include the issuance of a "No Further Action" finding if the risk level is found to be less than 1 in 1,000,000 ($>10^{-6}$) which is DTSC's "point of departure", and the health hazard index is less than 1.0. Additional outcomes may include the need for further assessment through the Remedial Investigation/ Feasibility Study (RI/FS) process if the Project Site presents a risk and/or health hazard; the need to perform a Removal Action if localized impacts by hazardous substances release(s) are found; or the abandonment of the Project Site as a potential school site and the pursuit of alternative sites.

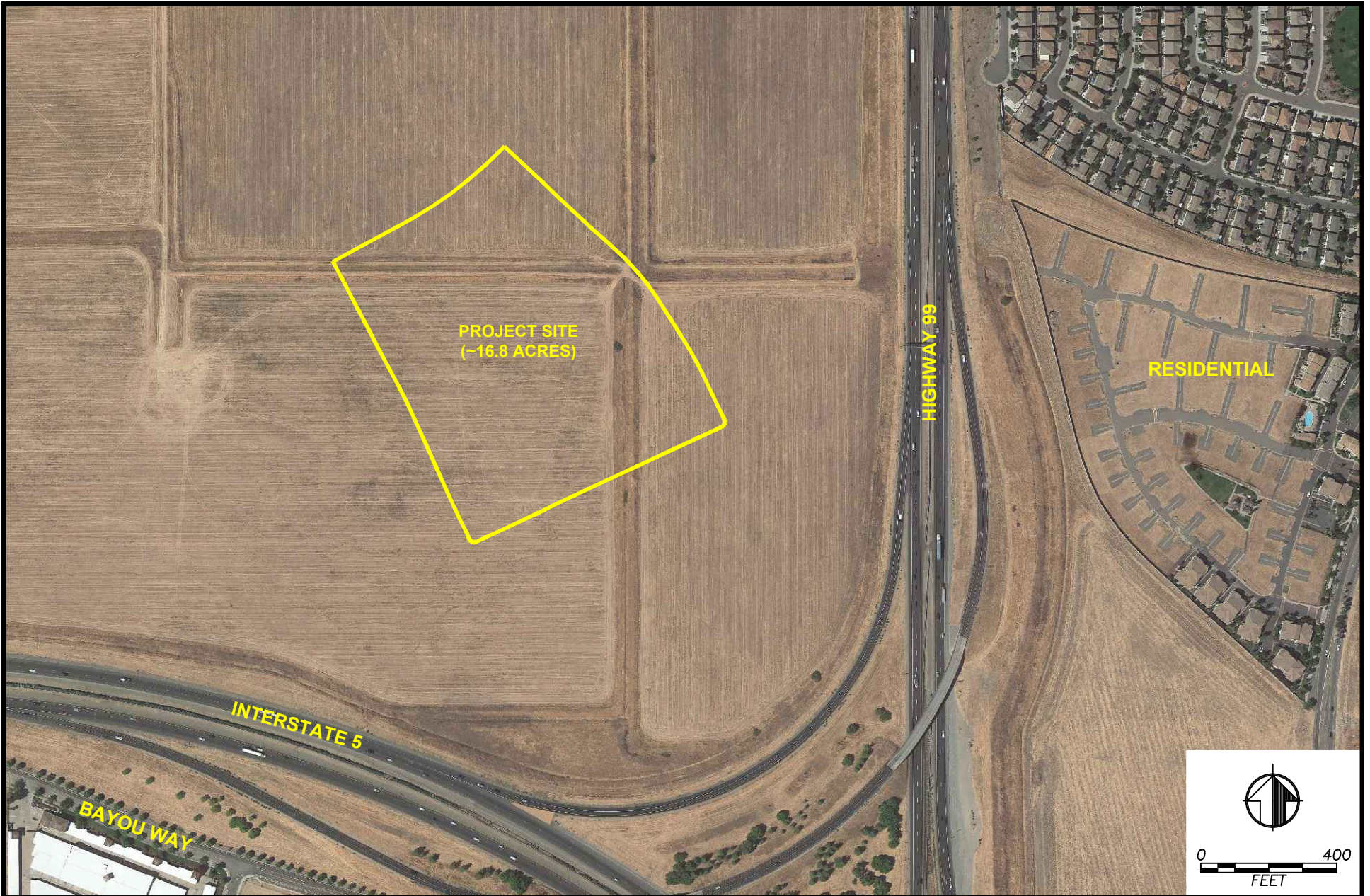


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NORTHLAKE SCHOOL SITE
 TWIN RIVERS UNIFIED SCHOOL DISTRICT
 INTERSTATE 5 AND HIGHWAY 99
 SACRAMENTO, SACRAMENTO COUNTY CALIFORNIA

PLATE 1-1
 SITE LOCATION

PROJECT NO. 1701-2122	DATE 12/9/20	DR. BY AC	APP. BY AJK
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SOURCE: GOOGLE EARTH MAP DATED AUG 2018

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 TWIN RIVERS UNIFIED SCHOOL DISTRICT
 INTERSTATE 5 AND HIGHWAY 99
 SACRAMENTO, SACRAMENTO COUNTY CALIFORNIA**

PROJECT NO.	DATE	DR. BY	APP. BY
1701-2122	12/9/20	AC	AJK

PLATE 1-2

SITE MAP

2.0 PROPERTY DESCRIPTION AND CONTACTS

2.1 SITE LOCATION AND ASSESSOR'S PARCEL NUMBER

The Project Site consists of approximately 16.8 acres of vacant land located north of Interstate 5 and west of State Highway 99 in Sacramento, Sacramento County, California. The Project Site is comprised of a portion of two parcels of land identified by the City and County of Sacramento as assessor parcel numbers (APNs): 201-0300-049 and 201-0300-071. The portion of the Project Site identified to be a part of APN 201-0300-049 is approximately 0.8 acres, and the portion identified to be on APN 201-0300-071 is approximately 16 acres. The Twin Rivers Unified School District is listed as the legal current owner (May 2018). A copy of the parcel map was presented in the PEA Workplan.

2.2 DESIGNATED CONTACT PERSON

Mr. Perry Herrera
Director of Facilities Construction & Engineering
Twin Rivers Unified School District
5115 Dudley Boulevard
Sacramento, California 95652

2.3 PROPERTY USE

Based on the Phase I ESA, the Project Site was utilized as field crops from at least 1937 through 2012. No building structures and/or water wells were identified to have been located at the Project Site. Two irrigation ditches transect the Project Site in a north-south and east-west direction. According to aerial photographs the irrigation ditches have been present since 1937.

2.4 ENVIROSTOR DATABASE NUMBER

The EnviroStor database number for the Project Site is 60003018.

2.5 TOWNSHIP, RANGE, AND SECTION

The Project Site is located in portion Section 33, Township 10 North, Range 04 East, of the Taylor Monument, California USGS 7½-Minute topographic series, Quadrangle Map (1967, revised 1980). Approximate latitude and longitude are identified to be:

- Latitude (North) 38° 40' 25.3" (38.6737)
- Longitude (West) 121° 32' 39.5" (-121.5443)

2.6 SITE MAPS

A site location map is included as Plate 1-1, and a site map is included as Plate 1-2.

2.7 PHYSICAL SETTING

Topography

Based on a review of the USGS 7.5-minute series topographic map, Taylor Monument Quadrangle, California, 1967 (photorevised 1980), the Project Site lies at an approximate elevation of 18 – 22 feet above mean sea level (amsl). The Project Site is relatively flat with a gentle slope to the west towards the interior of an agricultural field. A 3- to 7-foot high berm and irrigation ditch transects the north side of Project Site from east to west and a 4-foot high berm and irrigation ditch transects the east side of the Project Site from north to south. Typically, rainfall would infiltrate into the exposed surface area and surface drainage from excessive precipitation would be expected to pond and/or follow the sloping terrain described above.

The Sacramento River is located approximately 2.1 miles southwest of the Project Site. The Sacramento River is approximately 400 miles long and drains a watershed of approximately 26,500 square miles. The Sacramento River begins in the Klamath Mountains and flows south through the northern Central Valley, before ultimately draining into the Honker Bay located approximately 45 miles southwest of the Project Site.

Geology

The Project Site is located in the north-central portion of the Great Valley geomorphic province of California and specifically within the Sacramento Valley. Geologically, the Great Valley geomorphic province is monotonous and reflects primarily the deposition of sediments eroded from the Sierra Nevada and Coast Ranges onto alluvial fans, flood plains, and deltas resulting from the two major rivers and their tributaries. Stratigraphically, the subsurface of the Great Valley is complex, and is comprised of tens of thousands of feet of marine and non-marine sediments ranging in age from Jurassic to Recent. The sediments are important sources of groundwater and hydrocarbons (gas and oil).

The relatively flat surface of the Sacramento Valley is underlain by alluvial, lacustrine, and marine sedimentary deposits that accumulated as a structural trough formed as the adjacent mountain ranges were elevated through tectonic processes. The thickness of the sediments varies from a thin veneer along the valley margins to thousands of feet thick at the axis of the trough. The main axis of the trough is oriented north-south along the valley's main drainage axis (Norris & Webb, 1975).

According to the California Division of Mines and Geology, *Geologic Map of the Sacramento Quadrangle, California, 1:250,000* (1981), the Project Site is underlain by Quaternary alluvium identified as Qa (natural levee and channel deposits) and Qb (basin deposits). The alluvium material consists of recent alluvium, generally consisting of silty sand, interbedded clay, silt, sand, and gravelly sands as well as poorly sorted stream and basin deposits; clay to boulder size.

Soils

According to the United States Department of Agriculture, Soil Conservation Service and Forest Service, Soil Survey of Sacramento County, California, dated April 1993, the Project Site soil consists of Clear Lake Clay, hardpan substratum, drained (0 to 1 percent slopes) and San Joaquin-Durixeralfs complex (0 to 1 percent slopes).

Clear Lake clay, hardpan substratum, drained (0 to 1 percent slopes) consists of very deep artificially drained soil located in basins. The soil formed in somewhat poorly drained fine textured derived from mixed rock sources. The vegetation in uncultivated areas is mainly annual grasses and forbs. Typically, the surface layer is dark gray clay about 15 inches thick. The upper 19 inches of the underlying material is dark gray and yellowish brown clay that has segregated concretions of lime. The lower 14 inches is yellowish brown and gray clay loam that has segregated concretions of lime. Below this to a depth of 64 inches is a hardpan that is cemented with silica. Permeability is slow and the available water capacity is moderate. The shrink-swell potential is high, runoff is very slow and the hazard of water erosion is slight to none.

San Joaquin-Durixeralfs complex (0 to 1 percent slopes) consists of moderately well-drained soils located on low terraces. The soil formed in alluvium derived from dominantly granitic rock sources. In basins, Clear Lake soils have intersection slickensides and have cracks that open to the surface. Durixeralfs have an Ap horizon of clay loam, sandy clay loam, or clay. Typically, the surface layer is strong brown silt loam about 23 inches thick which is followed by 5 inches of yellowish red clay loam. The underlying 11 inches is strong brown and yellowish red indurated duripan followed by 15 inches of yellowish brown strongly cemented duripan. Below this to a depth of 60 inches is stratified sandy loam. Permeability is slow to very slow and the available water capacity is low. The shrink-swell potential is low to moderate, runoff is very slow and the hazard of water erosion is slight to none.

Groundwater

The Project Site is located within the California Department of Water Resources (DWR) defined Sacramento River Hydrologic Region, Sacramento Valley Groundwater Basin, North American Sub-Basin (DWR Bulletin 118). The depth to groundwater in the area of the Project Site is reported to be approximately 15 feet below ground surface (bgs), and is inferred to flow in a northeast direction. However, regional groundwater pumping may influence flow direction in the vicinity of the Project Site.

2.8 SURROUNDING PROPERTY LAND USE

The Project Site is bordered to the north by agricultural fields and residential development, beyond which is Elkhorn Boulevard; to the east by agricultural fields, beyond which is State Highway 99; to the south by agricultural fields, beyond which is Interstate 5; and to the west by agricultural fields.

3.0 BACKGROUND

3.1 PREVIOUS ENVIRONMENTAL REPORTS

Padre prepared the document titled *Phase I Environmental Site Assessment and Title V Environmental Hazards Review, New Greenbriar K-8 School Site, Sacramento, Sacramento County, California* dated May 2018. Based on the findings of the Phase I ESA, historic agricultural use of the property (pesticides, arsenic) was identified as a Recognized Environmental Concern (REC).

3.2 CHEMICALS OF POTENTIAL CONCERN

The chemicals of potential concern (COPC) identified at the Project Site were based on current site conditions and historic property use. This information is summarized below:

- The Project Site has been used for agricultural purposes from at least 1937 to 2012. Therefore, sampling for organochlorine pesticides (OCPs), arsenic and lead in surface and shallow subsurface soil was performed;
- The Project Site is transected by two irrigation ditches that have been present on the Project Site since at least 1937. During site reconnaissance the irrigation ditches were dry. Therefore, sampling for arsenic, lead, and OCPs in soil from within each ditch was performed;
- There were no pole-mounted or pad-mounted electrical transformers identified at the Project Site. Therefore, sampling for PCBs in soil associated with electrical transformers was not performed;
- The proposed project does not include the use of a groundwater well and will be connected to the municipal water system; therefore, the assessment of groundwater beneath the Project Site was not performed;
- Currently, the fields are not actively farmed, and surface water was not observed during Padre's site reconnaissance of the Project Site. Therefore, exposure to surface water is not considered a complete exposure pathway. However, based on historic agricultural use, soil samples from within the irrigation ditches were collected and analyzed for arsenic, lead, and OCPs; and
- Ingestion of vegetation and animals is not considered a complete exposure pathway because of the use of the Project Site as part of new school site.

4.0 CONCEPTUAL SITE MODEL

The conceptual site model is the tool used to identify the primary sources of COPC identified at the Project Site, release mechanisms for the COPC, points of exposure at the Project Site, and the exposure pathways (ingestion, inhalation, and dermal contact) for the screening level evaluation of chronic health risks. The objective of this PEA is to evaluate the Project Site for an unrestricted land use (residential) scenario.

There are several ways a receptor may be exposed to COPC (i.e., pesticides, etc). Receptors can include humans, animals, vegetation, surface water, and/or groundwater. Typical pathways for exposure to COPC include:

- Physical transport via tracking chemicals of concern on people, clothing, and/or equipment; and
- Transport by airborne particulate matter.

For humans and animals, exposure usually occurs by the following exposure routes:

- Ingestion or inhalation of contaminated soil particles; and
- Dermal contact with contaminated soil particles.

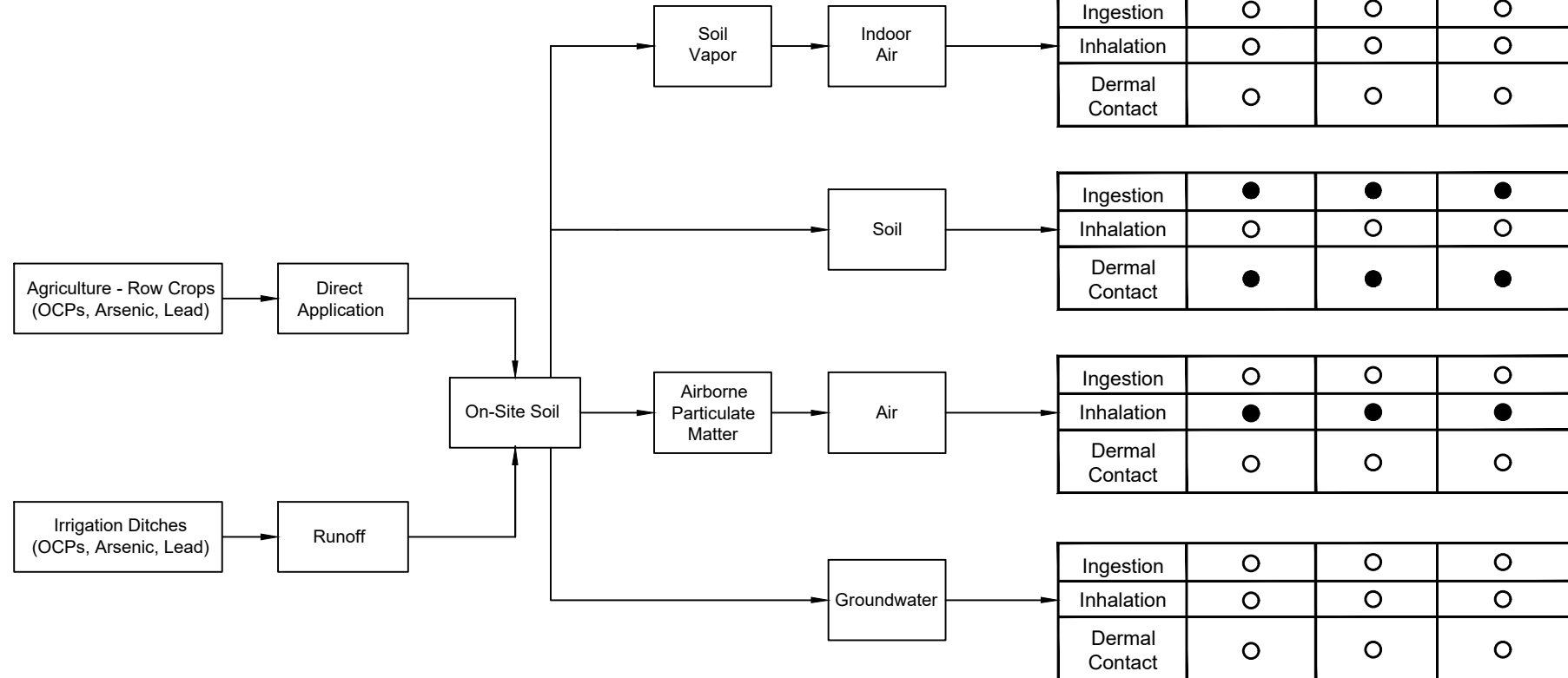
The conceptual site model for the Project Site was developed based on the following assumptions:

- Exposure of students, staff, and site visitors to COPC in soil via the ingestion, dermal contact, and inhalation routes is considered a complete exposure pathway;
- Exposure of students, staff, and site visitors to COPC in airborne particulate matter via the inhalation route is considered a complete exposure pathway;
- Exposure of students, staff, and site visitors to COPC in soil vapor via the inhalation route is considered an incomplete exposure pathway;
- The Project Site will be connected to municipal water. Therefore, exposure to groundwater beneath the Project Site is considered an incomplete exposure pathway;
- Surface water was not observed at the Project Site. Therefore, exposure to surface water at the Project Site is an incomplete exposure pathway; and
- Ingestion of vegetation and animals is considered an incomplete exposure pathway because of the proposed use as a school site.

A conceptual site model is presented on **Plate 4-1**.

PRIMARY SOURCES	PRIMARY RELEASE MECHANISM	POTENTIAL SECONDARY SOURCES	SECONDARY RELEASE MECHANISM	POINT OF EXPOSURE
-----------------	---------------------------	-----------------------------	-----------------------------	-------------------

EXPOSURE ROUTE	RECEPTOR		
	Students	Staff	Site Visitors



- - Complete Exposure Pathway
- - Incomplete Exposure Pathway

NOTE: This Conceptual Site Model represents a residential scenario, as required for school sites.

5.0 PEA ASSESSMENT

At the time of the PEA field activities, there were no unusual Project Site conditions encountered. On November 10 and 11, 2020 Padre staff completed the planned PEA soil sampling activities at the Project Site in general accordance with the DTSC approved PEA Work Plan dated October 13, 2020.

Due to the lack of residents in the immediate area of the Project Site notices were printed on District letterhead and posted at the Project Site during field sampling activities. A copy of the draft notification was presented in the PEA Work Plan.

5.1 SAMPLE LOCATIONS

The latitudinal and longitudinal coordinates of each sample location are presented on **Table 5-1** and were identified using a Trimble GeoXT handheld electronic navigating device operating with the United States Government's Global Positioning Satellite system. The GeoXT handheld typically obtains submeter accuracy. The field sampling schedule is presented in **Tables 5-2** and the sample collection information is presented in **Table 5-3**. The specific sample locations are described below.

5.1.1 Soil Sampling

Agricultural Soils – At 27 locations, discrete surface (0-0.5') and subsurface (2.0-2.5') soil samples were collected from a grid-pattern across the Project Site. A total of 8-composite surface soil samples and 7-composite subsurface soil samples (3-point and 4-point) were chemically analyzed for the presence of OCPs. One discrete soil sample was selected from each composite sample set and analyzed for the presence of arsenic and lead.

Irrigation Ditches. Two drainage ditches transect the Project Site. Discrete surface soil samples were collected at seven (7) locations along the bottom and high-water mark in each of the drainage ditches located within the Project Site. Each discrete soil sample was chemically analyzed for the presence of arsenic, lead, and OCPs. The irrigation ditches were dry at the time of sampling, therefore the soil samples were collected in an alternating pattern from the high-water mark and from the bottom of the ditches. The approximate lateral distance between sample locations was 300-feet. The soil sample locations are presented on **Plate 5-1**.

5.1.2 Quality Analysis/Quality Control Samples

For quality assurance/quality control (QA/QC), approximately 10% of the discrete soil samples were analyzed as duplicate soil samples. Padre requested the analytical laboratory to split selected soil samples to be chemically analyzed as duplicates for OCPs, arsenic, and lead. One equipment blank sample and one field blank sample per soil sampling event (water samples) were also collected and analyzed for the presence of arsenic and lead.

5.2 SAMPLE COLLECTION

5.2.1 Soil Sample Collection

Surface and soil samples were collected using hand sampling tools included a stainless-steel hand pick. Soil sampling equipment was decontaminated prior to use at each sample collection location and sampling event. Soil samples were collected in 2-inch x 6-inch stainless steel sleeves. Surface soil was loosened with a hand pick and then using the hand pick placed into the sample liner.

The soil samples were sealed, labeled, and preserved on ice in the field. After completion of soil sampling activities, the soil samples were transferred to a State-certified analytical laboratory under chain-of-custody protocol for chemical analyses. Field sampling methods conformed to guidelines set forth in the Health and Safety Plan included in Appendix D of the PEA Work Plan.

5.2.2 Decontamination Procedures

Equipment that came into contact with potentially contaminated soil was decontaminated consistently so as to assure the quality of samples collected. Disposable equipment intended for one-time use was not decontaminated but packaged for appropriate disposal. Decontamination occurred prior to and after each use of a piece of equipment. All sampling devices used were decontaminated using the following procedures:

- Non-phosphate detergent and tap water wash, in a 5-gallon plastic bucket, using a brush;
- Deionized/distilled water rinse, in a 5-gallon plastic bucket; and
- Final deionized/distilled water rinse in a 5-gallon plastic bucket.

At the completion of sampling activities, the small amount of wash water was dispersed to the field area and allowed to infiltrate/evaporate. The wash water consisted of water, non-phosphate detergent, and a small amount of surface soil.

5.3 SAMPLE ANALYSES

The sampling schedule is summarized in **Table 5-2**. Analytical methods, types of containers, preservative, and holding times are summarized in **Table 5-3**. The laboratory analytical program consisted of chemical analyses of soil samples collected from the Project Site for the presence of:

- OCPs by U.S. Environmental Protection Agency (EPA) Method 8081A; and
- Arsenic and lead by U.S. EPA Method 6020.

One equipment blank (water sample) and one field blank (water sample) per soil sample event was analyzed for the presence of arsenic and lead by U.S. EPA Method 200.8.

5.3.1 Chain-of-Custody Records

Chain-of-custody (C-O-C) records are used to document sample collection and shipment to the laboratory for analysis. A C-O-C record accompanied all samples shipped for analysis. Form(s) were completed and sent with the samples for each laboratory and each shipment. If multiple coolers were sent to a single laboratory on a single day, C-O-C form(s) were completed and sent with the samples for each cooler. The C-O-C record identified the contents of each shipment and maintained the custodial integrity of the samples. Generally, a sample was considered to be in someone's custody if it was either in someone's physical possession, in someone's view, locked up, or kept in a secured area that was restricted to authorized personnel. Until receipt by the laboratory, the custody of the samples was the responsibility of the sample collector.

5.4 FIELD VARIANCES

During the course of the PEA field sampling activities, Padre staff encountered refusal at three locations (AG-1, -2 and -3) while attempting to collect soil samples from a depth 2- to 2.5-feet. For the surface sample AG-3, Padre mistakenly did not indicate on the chain of custody that the sample was to be analyzed for arsenic and lead. No other field variances were implemented during the course of the PEA.

- Table 5-1: GPS Locations (pg 5-4)
- Table 5-2: Field Sampling Schedule (pgs 5-5 and 5-6)
- Table 5-3: Sample Collection Information (pg 5-7)
- Plate 5-1 Soil Sampling Plan (AG)

Table 5-1. Sample Locations by Latitude and Longitude

Sample Identification	Coordinates	
	Latitude	Longitude
AG-1	38.674644°	-121.545520°
AG-2	38.674729°	-121.545022°
AG-3	38.674996°	-121.544346°
AG-4	38.674149°	-121.545457°
AG-5	38.674243°	-121.544936°
AG-6	38.674680°	-121.544109°
AG-7	38.674759°	-121.543697°
AG-8	38.673810°	-121.545260°
AG-9	38.674055°	-121.544602°
AG-10	38.674202°	-121.544065°
AG-11	38.674608°	-121.543441°
AG-12	38.673505°	-121.545070°
AG-13	38.673723°	-121.544428°
AG-14	38.673972°	-121.543744°
AG-15	38.674199°	-121.543414°
AG-16	38.673165°	-121.544877°
AG-17	38.673402°	-121.544221°
AG-18	38.673671°	-121.543549°
AG-19	38.673973°	-121.542819°
AG-20	38.672845°	-121.544664°
AG-21	38.673078°	-121.544043°
AG-22	38.673300°	-121.543519°
AG-23	38.673590°	-121.542694°
AG-24	38.672496°	-121.544495°
AG-25	38.672751°	-121.543857°
AG-26	38.672988°	-121.543456°
AG-27	38.673204°	-121.542512°
ID-1	38.674451°	-121.545704°
ID-2	38.674447°	-121.545000°
ID-3	38.674446°	-121.544301°
ID-4	38.674441°	121.543509°
ID-5	38.674097°	-121.543127°
ID-6	38.673620°	-121.543100°
ID-7	38.673032°	-121.543124°

Table 5-2. Field Sampling Schedule

Test Method	Sample Depth	Number of Samples	Sample Location	Submittal Status
Agricultural Fields				
OCPs by U.S. EPA Method 8081A	Surface (0-0.5 feet)	8 (composite)	CS-1 (AG-1, 2, 3) CS-2 (AG-6, 7, 11) CS-3 (AG-4, 5, 8, 9) CS-4 (AG-10, 14, 15, 18) CS-5 (AG-12, 13, 16, 17) CS-6 (AG-20, 21, 24) CS-7 (AG-22, 25, 26) CS-8 (AG-19, 23, 27). And Lab Dupe: CS-5	Analyze
	Subsurface (2.0-2.5 feet)	7 (composite)	CS-9 (AG-6, 7, 11) CS-10 (AG-4, 5, 8, 9) CS-11 (AG-10, 14, 15, 18) CS-12 (AG-12, 13, 16, 17) CS-13 (AG-20, 21, 24) CS-14 (AG-22, 25, 26) CS-15 (AG-19, 23, 27). And Lab Dupe: CS-15	Analyze
Arsenic by U.S. EPA Method 6020	Surface (0-0.5 feet)	7 (discrete)	AG-6, AG-8, AG-10, AG-17, AG-19, AG-21, and AG-25. Lab Dupe: AG-17	Analyze
	Subsurface (2.0-2.5 feet)	7 (discrete)	AG-6, AG-8, AG-10, AG-17, AG-19, AG-21, and AG-25. Lab Dupe: AG-6	Analyze
Lead by U.S. EPA Method 6020	Surface (0-0.5 feet)	7 (discrete)	AG-6, AG-8, AG-10, AG-17, AG-19, AG-21, and AG-25. Lab Dupe: AG-17	Analyze
	Subsurface (2.0-2.5 feet)	7 (discrete)	AG-6, AG-8, AG-10, AG-17, AG-19, AG-21, and AG-25. Lab Dupe: AG-6	Analyze

Table 5-2. Field Sampling Schedule (continued)

Test Method	Sample Depth	Number of Samples	Sample Location	Submittal Status
Irrigation Ditches				
OCPs by U.S. EPA Method 8081A	Surface to 0.5 feet	7 (discrete)	ID-1 through ID-7	Analyze
Arsenic by U.S. EPA Method 6020	Surface to 0.5 feet	7 (discrete)	ID-1 through ID-7	Analyze
Lead by U.S. EPA Method 6020	Surface to 0.5 feet	7 (discrete)	ID-1 through ID-7	Analyze
QA/QC Samples (water)				
Arsenic by U.S. EPA Method 200.8	--	1 per day	Equipment Blank (EB-1, etc.)	Analyze
		1 per day	Field Blanks (FB-1, etc.)	Analyze
Lead by U.S. EPA Method 200.8	--	1 per day	Equipment Blank (EB-1, etc.)	Analyze
		1 per day	Field Blanks (FB-1, etc.)	Analyze

Notes:

OCPs – organochlorine pesticides
 Duplicate samples split by the analytical laboratory.

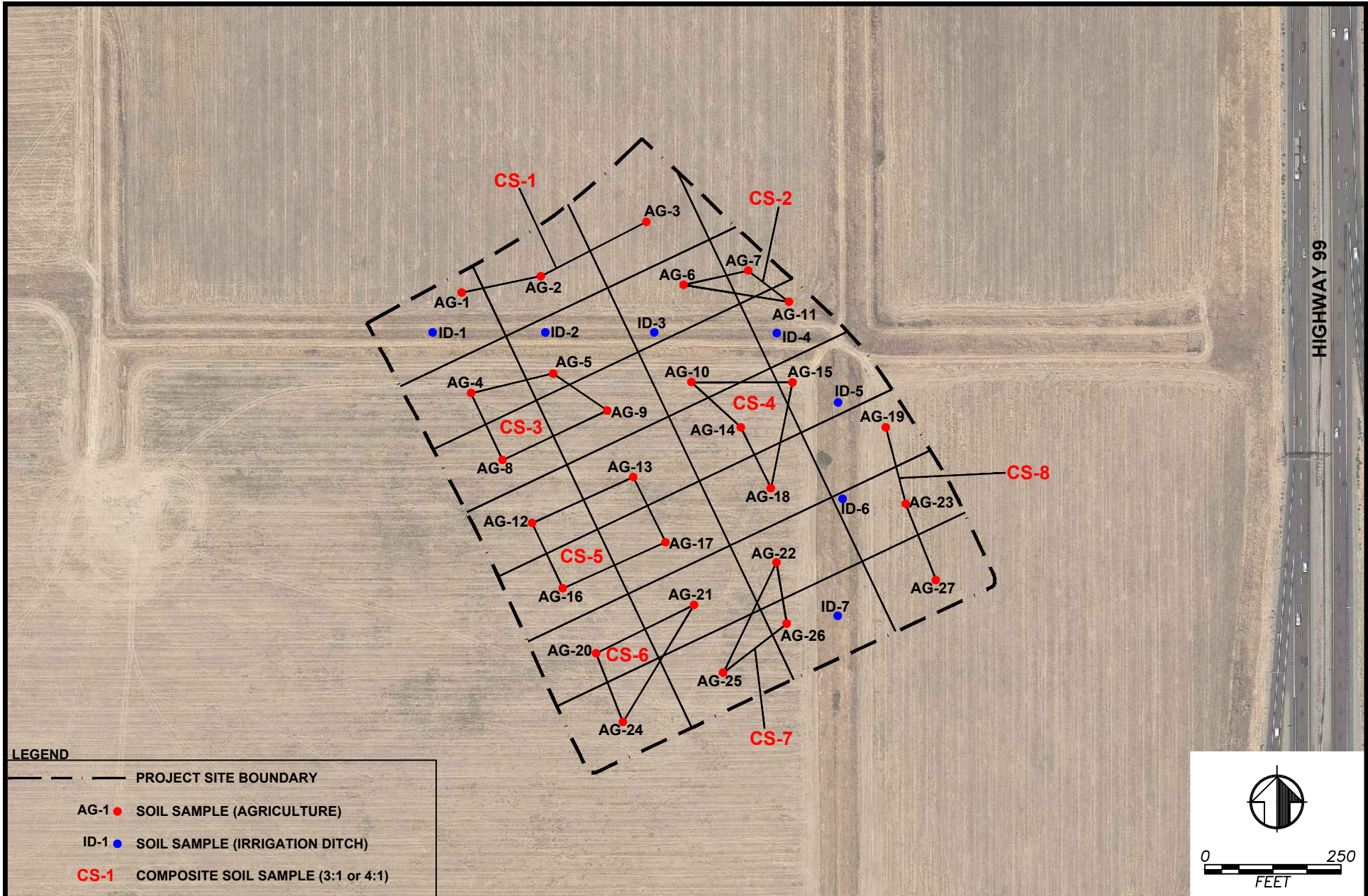
Table 5-3. Sample Collection Information

Sample Matrix and Test Method	Container	Preservative	Holding Time From Sample Collection to Extraction
Soil			
OCPs U.S. EPA Method 8081A	2 inch x 6 inch stainless steel sample sleeves, Teflon sheeting and plastic end caps	Ice	14 days
Arsenic U.S. EPA Method 6020	2 inch x 6 inch stainless steel sample sleeves, Teflon sheeting and plastic end caps	Ice	180 days
Lead U.S. EPA Method 6020	2 inch x 6 inch stainless steel sample sleeves, Teflon sheeting and plastic end caps	Ice	180 days
Water			
Arsenic U.S. EPA Method 200.8	250 mL poly bottle	HNO ₃ / Ice	180 days
Lead U.S. EPA Method 200.8	250 mL poly bottle	HNO ₃ / Ice	180 days

Notes:

OCP – Organochlorine pesticides

HNO₃ – Nitric Acid



LEGEND

	PROJECT SITE BOUNDARY
AG-1 ●	SOIL SAMPLE (AGRICULTURE)
ID-1 ●	SOIL SAMPLE (IRRIGATION DITCH)
CS-1	COMPOSITE SOIL SAMPLE (3:1 or 4:1)

SOURCE: GOOGLE EARTH MAP DATED AUG 2018

**NORTHLAKE SCHOOL SITE
TWIN RIVERS UNIFIED SCHOOL DISTRICT
INTERSTATE 5 AND HIGHWAY 99
SACRAMENTO, SACRAMENTO COUNTY CALIFORNIA**

PROJECT NO. 1701-2122	DATE 12/11/20	DR. BY AC	APP. BY AJK
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**PLATE 5-1
SOIL SAMPLING PLAN
(AG, IRRIGATION DITCHES)**



6.0 FINDINGS

The following sections describe the results of the PEA field activities performed by Padre at the Project Site. The laboratory analytical results are summarized in **Tables 6-1** and **6-2**, and certified analytical laboratory reports and chain-of-custody documentation are provided in **Appendix C**.

6.1 SOIL SAMPLING RESULTS

The following subsections describe soil sample analytical results, locations, and depth intervals for soil samples collected at the Project Site.

6.1.1 Arsenic

A total of 21 discrete surface and subsurface soil samples were collected from across the Project Site and chemically analyzed for the presence of arsenic by U.S. EPA Method 6020. Results of the laboratory analyses are presented in **Table 6-1** and on **Plate 6-1**. Additionally, the results are summarized below:

- Arsenic was reported in soil at concentrations ranging from 4.2 to 10 milligrams per kilogram (mg/kg).

6.1.2 Lead

A total of 21 discrete surface soil samples were collected from across the Project Site and chemically analyzed for the presence of lead by U.S. EPA Method 6020. Results of the laboratory analyses are presented in **Table 6-1** and on **Plate 6-1**. Additionally, the results are summarized below:

- Lead was reported at concentrations ranging from 6.7 to 14 mg/kg.

6.1.3 OCPs

At 27 locations from the former agricultural fields and seven (7) locations from the irrigation ditch areas, composite and discrete soil samples were chemically analyzed for the presence of OCPs by U.S. EPA Method 8081A. Results of the laboratory analyses are presented in **Table 6-2** and are summarized below:

- Beta – BHC was reported at concentrations ranging from less than 1.0 to 1.2 micrograms per kilogram ($\mu\text{g}/\text{kg}$);
- DDD was reported at concentrations ranging from less than 1.0 to 1.3 $\mu\text{g}/\text{kg}$;
- DDE was reported at concentrations ranging from less than 1.0 to 2.6 $\mu\text{g}/\text{kg}$;
- DDT was reported at concentrations ranging from less than 1.0 to 1.8 $\mu\text{g}/\text{kg}$;
- Endosulfan II was reported at concentrations ranging from less than 1.0 to 1.2 $\mu\text{g}/\text{kg}$;

- Endosulfan sulfate was reported at concentrations ranging from less than 1.0 to 2.4 µg/kg;
- Endrin ketone was reported at concentrations ranging from less than 1.0 to 1.6 µg/kg; and
- Heptachlor was reported at concentrations ranging from less than 1.0 to 1.6 µg/kg.

6.2 QA/QC SAMPLES

6.2.1 Equipment Blank

For each sampling event, distilled water was used as rinseate for decontaminating soil sampling equipment. The equipment blank sample was collected by pouring rinseate water over and through recently cleaned equipment, and collected directly into the appropriate sample container.

Equipment blank samples were collected and chemically analyzed for arsenic and lead by U.S. EPA Method 200.8. The results of the laboratory analysis did not identify the presence of arsenic or lead at or above the analytical reporting limit of 0.5 micrograms per liter (µg/L) for equipment blank EB-1.

6.2.2 Field Blank

For each sampling event, distilled water was used as rinseate for decontaminating sampling equipment. The field blank sample were collected by pouring rinseate water into the appropriate sample container.

The field blank sample was collected and chemically analyzed for arsenic and lead by U.S. EPA Method 200.8. The results of the laboratory analysis did not identify the presence of arsenic or lead at or above the analytical reporting limit of 0.5 µg/L for field blank FB-1.

6.3 LABORATORY QA/QC and DATA VALIDATION

McC Campbell Analytical, Inc. (McC Campbell) located in Pittsburg, California provided the required chemical analyses for soil and water samples collected at the Project Site. McC Campbell is certified (No. 1644) by the State of California Environmental Laboratory Accreditation Program (ELAP) Branch to provide the required chemical analyses.

A cover letter with the signature of the laboratory director accompanies every laboratory report received for this project. According to the lab director, samples were analyzed utilizing EPA or other ELAP approved methodologies, and that the results are in compliance both technically and for completeness. The data quality objectives (DQO) met by the analytical laboratory for this project were level II.

6.3.1 Precision

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the sample process under similar conditions.

Analytical precision is a measurement of the variability associated with duplicate or replicate analyses of the same sample in the laboratory, and is determined by analysis of laboratory quality control samples such as duplicate control samples (LCSD or DCS), matrix spike duplicates (MSD), or sample duplicates. If the recoveries of analytes in the specified control samples are comparable within established control limits, then precision is within limits.

Total precision is a measurement of the variability associated with the entire sampling and analytical process. It is determined by analysis of duplicate or replicate field samples, and measures variability introduced by other than laboratory and field operations. Field duplicate samples are analyzed to assess field and analytical precision.

Duplicate results are assessed using the relative percent difference (RPD) between duplicate measurements. If the RPD for laboratory quality control samples exceeds 30 percent, data shall be qualified as described in the applicable validation procedure. If the RPD between primary and duplicate field samples exceeds 100 percent for soil, data shall be qualified as described in the applicable validation procedure. The RPD shall be calculated as follows:

$$\% \text{ RPD} = 100\% \times \frac{\text{Abs}(X_2 - X_1)}{\text{Avg}(X_2 + X_1)}$$

Where X_2 is the larger of the two observed values, and X_1 is the smaller of the two observed values.

Two composite soil samples were chemically analyzed as duplicate samples for OCPs. OCPs were not reported in the original soil samples nor the duplicate soil samples.

Two discrete soil samples were chemically analyzed as duplicate samples for arsenic and lead. The RPD for the detected concentrations of arsenic and lead were within the acceptable quality control range.

6.3.2 Accuracy

Accuracy of laboratory analyses was by laboratory control samples, surrogate standards, matrix spikes, and initial and continuing calibrations of instruments. Laboratory accuracy is expressed as the percent recovery (%R). Accuracy limits are statistically generated by the laboratory or required by specified EPA methods. If the percent recovery is determined to be outside of acceptance criteria, the data was qualified. The percent recovery was calculated as follows:

$$\%R = 100 \times \frac{X_s - X}{T}$$

where X_s is the measured value of the spike sample, X is measured value of the unspiked sample, and T is the true value of the spiked solution.

In general recoveries were within acceptance limits; however, if recoveries were outside of acceptance criteria, the data was qualified by the analytical laboratory.

6.3.3 Representativeness

Representativeness is the degree to which data accurately and precisely represent selected characteristics of the media sampled. Representiveness of data collection is addressed by the preparation of sampling and analyses programs. The PEA investigation had sufficient and the proper number of sample locations; incorporated the proper sampling methodologies; utilized the proper sample collection techniques and decontamination procedures; utilized the proper laboratory methods to prepare and analyze soil/water samples; and performed proper field and laboratory QA/QC protocols.

6.3.4 Completeness

Completeness is the amount of valid data obtained compared to the amount that was expected under ideal conditions. The number of valid results divided by the number of possible results, expressed as a percentage, determines the completeness of the data set. The objective for completeness is to recover at least 90 percent of the planned data to support field efforts. The formula for is completeness is presented below:

$$\% \text{ Completeness} = 100 \times \frac{\text{number of valid results}}{\text{number of expected results}}$$

The analytical data for the soil and water samples is 93% complete.

6.3.5 Comparability

Comparability is an expression of confidence with which one data set can be compared to another data set. The objective of comparability is to ensure that data developed during the PEA investigation are comparable to site knowledge and adequately address applicable criteria or standards established by DTSC or the U.S. EPA. The laboratory methods that were utilized during this PEA investigation are consistent with the current standards of practice as approved by the DTSC and the USEPA.

6.3.6 Reporting Limits

Laboratory detection limits for the proposed analytical methods were presented in the PEA Workplan dated October 13, 2020 and approved by DTSC. These detection limits were met by the analytical laboratory.

6.3.7 Chain-of-Custody

Completed chain-of-custody forms were provided with the samples upon sample pick up by the McCampbell courier. Copies of the chain-of-custody forms were included in the final analytical report. No discrepancies were noted by the analytical laboratory.

6.3.8 Holding Time(s)

All analyses requested for McCampbell *Work Order Number 2011601* dated November 11, 2020 were performed within the method-specified holding times.

**Table 6-1. Soil Results for Arsenic
 (results in mg/kg)**

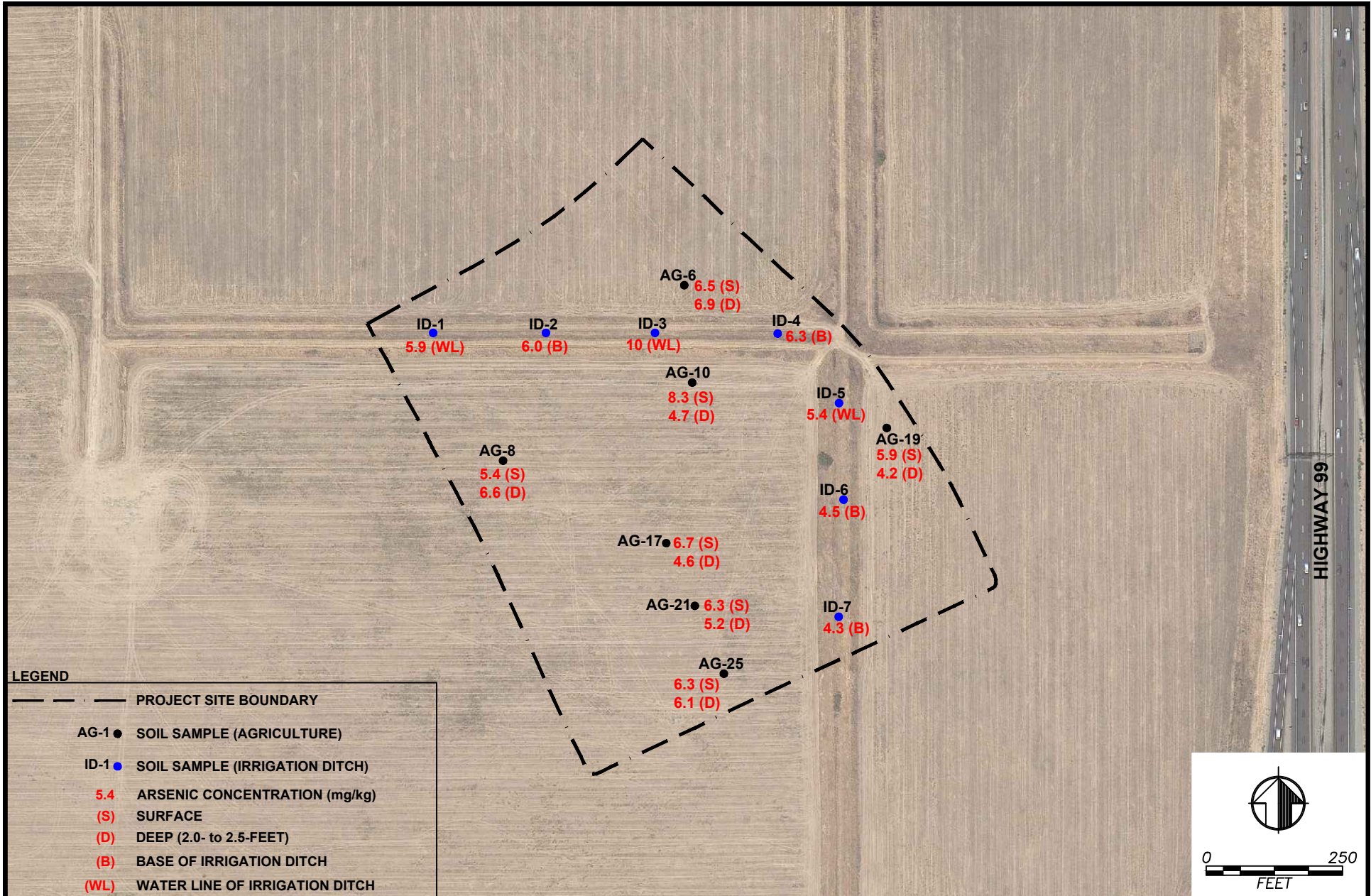
Sample Identification	Date Collected	Arsenic (mg/kg)	Lead (mg/kg)
Project Site Data Set			
AG-6 (SURF)	11-11-20	6.5	10
AG-6 (2-2.5')	11-11-20	6.9	8.5
AG-6 (2-2.5') DUPE	11-11-20	6.4	8.7
AG-8 (SURF)	11-10-20	5.4	6.9
AG-8 (2-2.5')	11-10-20	6.6	8.8
AG-10 (SURF)	11-10-20	8.3	11
AG-10 (2-2.5')	11-10-20	4.7	6.9
AG-17 (SURF)	11-10-20	6.6	8.7
AG-17 (SURF) DUPE	11-10-20	6.7	9.1
AG-17 (2-2.5')	11-10-20	4.6	9.6
AG-19 (SURF)	11-10-20	5.9	6.9
AG-19 (2-2.5')	11-10-20	4.2	7.5
AG-21 (SURF)	11-10-20	6.3	8.1
AG-21 (2-2.5')	11-10-20	5.2	7.6
AG- 25 (SURF)	11-10-20	6.3	8.6
AG-25 (2-2.5')	11-10-20	6.1	6.7
ID-1 (WL)	11-11-20	5.9	13
ID-2 (B)	11-11-20	6.0	14
ID-3 (WL)	11-11-20	10	11
ID-4 (B)	11-11-20	6.3	12
ID-5 (WL)	11-11-20	5.4	10
ID-6 (B)	11-11-20	4.5	11
ID-7 (B)	11-11-20	4.3	10
Project Site Data Set	Arsenic Range: 4.2 - 10		--
Background Data Set	Arsenic Range: 2.6 – 9.9		--
U.S. EPA Method		6020	6020
Screening Level		AB	80*

Notes: mg/kg – milligrams per kilogram
 AB – ambient background concentration
 * - DTSC's residential screening level based on LeadSpread Ver. 8

Table 6-2: Soil Results for OCPs
Results in (µg/kg)

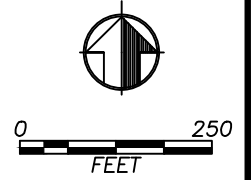
Sample Identification	Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Chlordane-technical	DDD	DDE	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Hexachloro-benzene	Hexachlorocyclopentadiene	Methoxychlor	Toxaphene	
Building A																							
CS-1 (AG-1,2,3) (SURF)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-2 (AG-6,7,11) (SURF)	<1.0	<1.0	1.2	<1.0	<1.0	<25	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-3 (AG-4,5,8,9) (SURF)	<1.0	<1.0	1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-4 (AG-10,14,15,18) (SURF)	<1.0	<1.0	1.2	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-5 (AG-12,13,16,17) (SURF)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-5 (SURF) DUPE	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-6 (AG-20,21,24) (SURF)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-7 (AG-22,25,26) (SURF)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-8 (AG-19,23,27) (SURF)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	1.3	2.6	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-9 (AG-6,7,11) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-10 (AG-4,5,8,9) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-11 (AG-10,14,15,18) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-12 (AG-12,13,16,17) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-13 (AG-20,21,24) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-14 (AG-22,25,26) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-15 (AG-19,23,27) (2-2.5')	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
CS-15 (2-2.5') DUPE	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-1 (WL)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-2 (B)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-3 (WL)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-4 (B)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	1.2	1.7	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-5 (WL)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-6 (B)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<1.0	<50	
ID-7 (B)	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	2.4	1.7	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	1.6	1.6	<1.0	<10	<20	<1.0	<50	
RSLs	39	86	300	--	570	1700	2,300	2,000	1,900	34	470,000 ^(b)	470,000 ^(b)	470,000 ^(b)	19,000 ^(a)	19,000 ^(c)	19,000 ^(c)	130	70	210	1,800	320,000	490	
3:1 COMP	13	29	100	--	190	147	767	667	634	12	156,667	156,667	156,667	6,334	6,334	6,334	44	24	70	600	106,667	164	
4:1 COMP	10	22	75	--	142	110	575	500	475	7	117,500	117,500	117,500	4,750	4,750	4,750	33	18	53	450	80,000	123	

Notes:
 µg/kg –micrograms per kilogram
 RSL– U.S. EPA Regional Screening Levels (November 2020)
 -- - not established
 (a) - HHRA Note #3, DTSC-modified screening level (June 2020)
 (b) – RSL for Endosulfan
 (c) – RSL for Endrin



LEGEND

- PROJECT SITE BOUNDARY
- AG-1 ● SOIL SAMPLE (AGRICULTURE)
- ID-1 ● SOIL SAMPLE (IRRIGATION DITCH)
- 5.4 ARSENIC CONCENTRATION (mg/kg)
- (S) SURFACE
- (D) DEEP (2.0- to 2.5- FEET)
- (B) BASE OF IRRIGATION DITCH
- (WL) WATER LINE OF IRRIGATION DITCH



SOURCE: GOOGLE EARTH MAP DATED AUG 2018

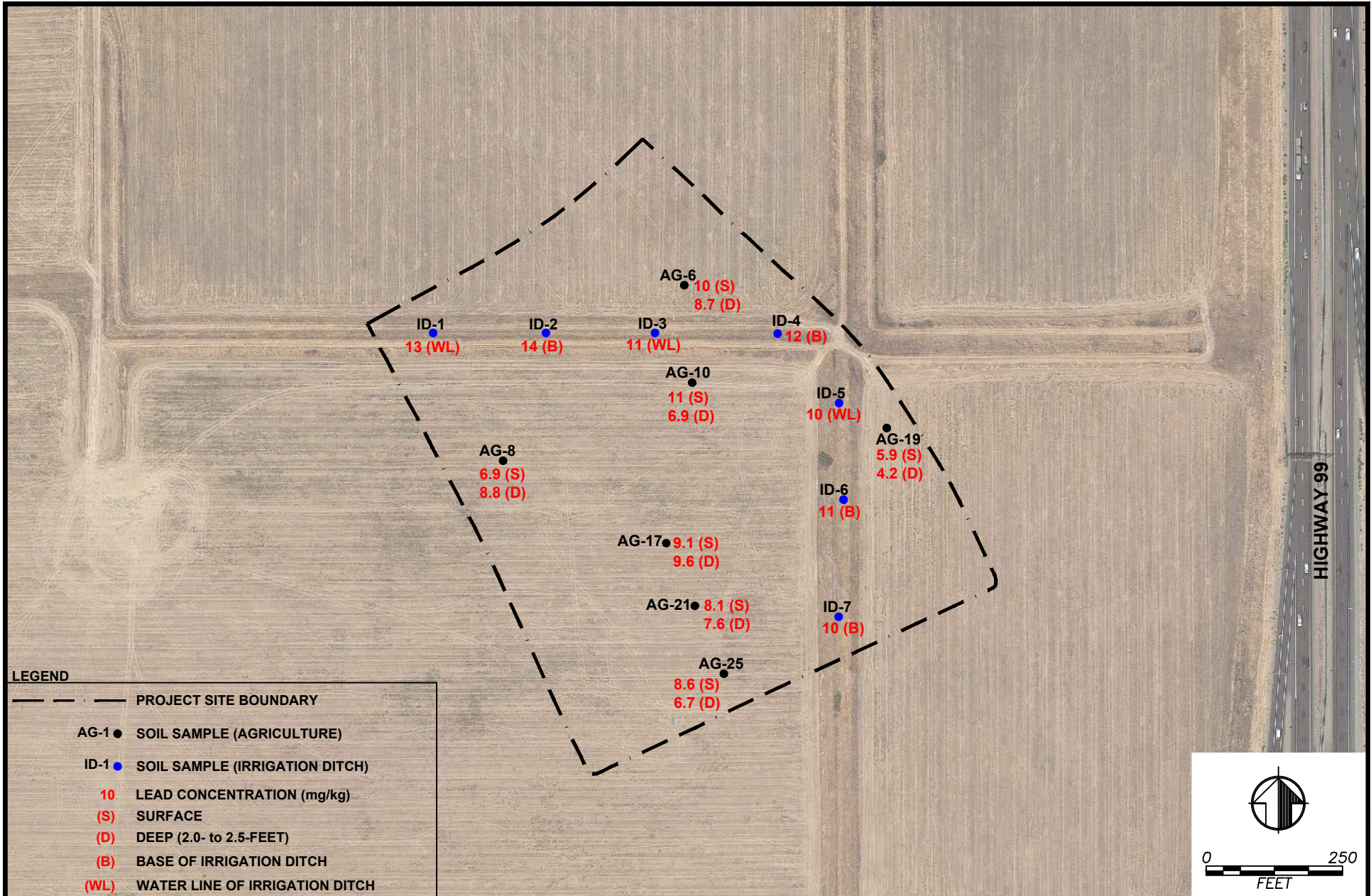
padre
 associates, inc.
 ENGINEERS, GEOLOGISTS &
 ENVIRONMENTAL SCIENTISTS

NORTHLAKE SCHOOL SITE
 TWIN RIVERS UNIFIED SCHOOL DISTRICT
 INTERSTATE 5 AND HIGHWAY 99
 SACRAMENTO, SACRAMENTO COUNTY CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
1701-2122	12/11/20	AC	AJK

PLATE 6-1

ARSENIC RESULTS



HIGHWAY 99



SOURCE: GOOGLE EARTH MAP DATED AUG 2018

padre
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 ENGINEERS, GEOLOGISTS &
 ENVIRONMENTAL SCIENTISTS

NORTHLAKE SCHOOL SITE
 TWIN RIVERS UNIFIED SCHOOL DISTRICT
 INTERSTATE 5 AND HIGHWAY 99
 SACRAMENTO, SACRAMENTO COUNTY CALIFORNIA

PROJECT NO.	DATE	DR. BY	APP. BY
1701-2122	12/11/20	AC	AJK

PLATE 6-2

LEAD RESULTS

7.0 HUMAN HEALTH SCREENING-LEVEL EVALUATION

7.1 CHEMICALS OF POTENTIAL CONCERN

The COPCs used in the human health screening-level evaluation for the Project Site completed by Padre included those compounds that were reported at concentrations at or in excess of their respective analytical laboratory reporting limits. Therefore, the following COPC in soil identified at the Project Site was evaluated:

- Metals – Arsenic and Lead; and
- OCPs – beta-BHC, DDD, DDE, DDT, endosulfan II, endosulfan sulfate, endrin ketone, and heptachlor.

7.2 SOIL RISK ASSESSMENT

The DTSC-modified screening levels provided in Human Health Risk Assessment (HHRA) Note 3 dated June 2020 were used to conduct a screening-level human health risk assessment using the residential land-use scenario. Carcinogenic screening levels are typically based on a predicted excess long-term cancer risk of one in a million. Non-carcinogenic screening levels are based on maintaining the daily COC intake below the level at which deleterious health effects are considered possible.

In accordance with PEA guidance documents and DTSC's HHRA Note No. 4, dated May 2019, detected chemical concentrations in soil were evaluated as potential exposure point concentrations (EPCs). The maximum EPCs for the COC were evaluated. Additionally, the highest lead concentration was also evaluated using DTSC's lead risk assessment spreadsheet model (*LeadSpread Version 8*).

The EPCs were compared to their respective screening levels. The ratio of an EPC to the corresponding carcinogenic screening level was multiplied by 1E-06 to estimate the chemical-specific screening cancer risk. For noncarcinogens, the chemical-specific hazard index is the ratio of the EPC to the screening level based on noncarcinogenic effects. The risk screening equations are as follows:

For each carcinogenic chemical:

$$\frac{\text{Maximum Detected Concentration}}{\text{Screening Level}} \times 10^{-6} = \text{Cancer Risk}$$

For each non-carcinogenic chemical:

$$\frac{\text{Maximum Detected Concentration}}{\text{Screening Level}} = \text{Hazard Quotient}$$

The sums of the chemical-specific screening cancer risk and screening hazard index are the cumulative screening cancer risk and hazard index, respectively.

Arsenic concentrations ranged from 4.2 to 10 mg/kg in soil samples collected from across the Project Site, with a calculated 95% upper confidence level (UCL) of 6.05 mg/kg. The Project Site arsenic concentrations were compared to a background site located approximately 3,000 feet northeast of the Project Site. The arsenic concentrations at the background site ranged from 2.6 to 9.9 mg/kg. Arsenic concentrations identified in surface soil at the Project Site are comparable to background concentrations and further assessment and/or remedial action for arsenic in soil is not warranted. A copy of the background arsenic concentrations is presented in **Appendix D**.

Lead concentrations ranged from 6.7 to 14 mg/kg in soil samples collected at the Project Site. A risk assessment was performed using the DTSC lead risk assessment spreadsheet model (*LeadSpread Version 8*). Based on the LeadSpread output using the highest concentration (14 mg/kg), exposure to lead concentrations detected at the Project Site could result in a 90th percentile blood lead concentration of 0.4 micrograms per deciliter ($\mu\text{g}/\text{dl}$) in children (pica child) which does not exceed the OEHHA blood toxicity level of 1 $\mu\text{g}/\text{dl}$. A copy of the LeadSpread Risk Assessment Spreadsheet is presented in **Appendix D**.

The total risk identified in soil at the Project Site from the presence of OCPs was estimated to be 1.9×10^{-8} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from OCPs identified in soils at the Project Site was estimated to be 0.00098, which does not present an increased health hazard (i.e., >1). The results of the screening-level evaluation are presented in **Table 7-1**.

8.0 ECOLOGICAL SCREENING

A detailed ecological screening evaluation was not performed during this PEA because the Project Site has historically been utilized for agricultural purposes. Natural wildlife habitat areas were not noted on the Project Site during the course of the PEA. Therefore, based on the available information, there does not appear to be a significant pathway of exposure to nonhuman, sensitive ecological species.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of the PEA was to establish whether a release or potential release of hazardous substances, which potentially pose a threat to human health via ingestion, dermal contact, and inhalation exposure pathways, exists at the Project Site.

Evaluation

The COPC used in the human health screening-level evaluation for the Project Site included those compounds that were reported at concentrations at or above their respective analytical laboratory reporting limits. Therefore, the following COPC was evaluated:

- Metals – Arsenic and Lead; and
- OCPs – beta-BHC, DDD, DDE, DDT, endosulfan II, endosulfan sulfate, endrin ketone, and heptachlor.

Risk Assessment

The findings of the PEA identified that arsenic concentrations ranged from 4.2 to 10 milligram per kilogram (mg/kg) in soil samples collected from across the Project Site, with a calculated 95% upper confidence level (UCL) of 6.05 mg/kg. Project Site arsenic concentrations in soil were compared to a background arsenic data set that consisted of arsenic concentrations ranging from 2.6 to 9.9 mg/kg in soil. The arsenic data sets are comparable. Therefore, further assessment and/or remedial action for arsenic in soil is not warranted.

Lead concentrations ranged from 6.7 to 14 mg/kg in soil samples collected at the Project Site. A risk assessment was performed using the DTSC lead risk assessment spreadsheet model (*LeadSpread Version 8*). Based on the LeadSpread output using the highest concentration (14 mg/kg), exposure to lead concentrations detected at the Project Site could result in a 90th percentile blood lead concentration of 0.4 micrograms per deciliter (µg/dl) in children (pica child) which does not exceed the OEHHA blood toxicity level of 1 µg/dl. Therefore, further assessment and/or remedial action for lead in soil is not warranted.

The total risk identified in soil at the Project Site from the presence of OCPs was estimated to be 1.9×10^{-8} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from OCPs identified in soils at the Project Site was estimated to be 0.00098, which does not present an increased health hazard (i.e., >1). Therefore, further assessment and/or remedial action for OCPs in soil is not warranted.

Recommendations

The PEA screening level risk assessment indicates that the Project Site has not been significantly impacted by past agricultural practices. Therefore, Padre recommends the issuance of a “No Further Action” designation from the DTSC regarding the proposed Northlake school site.

10.0 REFERENCES

California, Department of Toxic Substances Control, Envirostor Database.

_____, *Interim Guidance for Sampling Agricultural Soils (Third Revision)*, August 7, 2008.

_____, *Preliminary Endangerment Assessment Guidance Manual*, January 1994 (Revised October 2015).

CalEPA, DTSC – Envirostor Database, (<https://www.envirostor.dtsc.ca.gov/public/>).

California, Department of Water Resources (<http://www.water.ca.gov/waterdatalibrary/>)

California, State Water Resources Control Board Geotracker website, (<http://geotracker.swrcb.ca.gov>).

Google Earth.

Jennings, C.W., *Fault Activity Map of California and Adjacent Areas*, California Division of Mines and Geology, 1994.

Jennings and Bryant, *Fault Activity Map of California*, California Geological Survey, 2010.

Norris, R. M., & R. W. Webb, 1976 (Second Edition 1990), *Geology of California*, John Wiley & Sons, New York, pp. 412-427.

Padre Associates Inc., *Phase I Environmental Site Assessment and Title V Environmental Hazards Review, New Greenbriar K-8 School Site, Sacramento, Sacramento County*, May 2018.

_____, *Preliminary Environmental Assessment Work Plan, Northlake School Site, Northwest of Interstate 5 and Highway 99, Sacramento, Sacramento County, California (Site Code: 104827)*, October 2020.

Sacramento County Assessor's Office.

United State Department of Agriculture, National Resources Conservation Service, *Soil Survey of Sacramento County, California*, April 1980.

APPENDIX A
DTSC CORRESPONDENCE



Jared Blumenfeld
Secretary for
Environmental Protection



Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Gavin Newsom
Governor

October 20, 2020

Mr. Perry Herrera
Director of Facilities Construction & Engineering
Twin Rivers Unified School District
5115 Dudley Boulevard
McClelland Park, California 95652
Perry.Herrera@twinriversusd.org

PRELIMINARY ENVIRONMENTAL ASSESSMENT WORKPLAN – APPROVAL,
TWIN RIVERS UNIFIED SCHOOL DISTRICT, [PROPOSED] NORTHLAKE SCHOOL,
700 FEET NORTH OF INTERSTATE 5 AND 600 FEET WEST OF STATE
HIGHWAY 99, SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA
(PROJECT CODE 104827)

Dear Mr. Herrera:

The Department of Toxic Substances Control (DTSC) hereby approves the revised *Preliminary Environmental Assessment Workplan* (PEA Workplan - Padre Associates, Inc., October 13, 2020) received electronically on October 13, 2020. The PEA Workplan was revised in response to DTSC comments on the draft version forwarded in a letter dated October 5, 2020. The PEA Workplan includes project background information as well as proposed environmental investigation activities for the 16.8-acre proposed elementary school property located approximately 700 feet north of Interstate 5 and 600 feet west of State Highway 99, Sacramento, Sacramento County, California (Site).

According to the PEA Workplan, the Twin Rivers Unified School District (District) is proposing to construct a K through 8th grade elementary school on the Site. The Site is comprised of a portion of two larger parcels of land identified by the County of Sacramento as Assessor's Parcel Numbers (APNs) 201-0300-049 (0.8 acres of an 8.5-acre parcel) and 201-0300-071 (16 acres of a 718.5-acre parcel). The proposed elementary school will include 49 classrooms for up to 1,063 students. The Sacramento County Utilities will provide municipal water and sewer services.

According to aerial photographs, the Site was utilized for row crop farming from at least 1937 through 2012. No building structures and/or water wells were identified to have been located at the Site. Two irrigation ditches transect the Site in a north-south and

east-west direction. According to aerial photographs the irrigation ditches have been present since 1937.

The Site is bordered to the north by agricultural fields, beyond which is Elkhorn Boulevard; to the east by agricultural fields, beyond which is State Highway 99; to the south by agricultural fields, beyond which is Interstate 5; and to the west by agricultural fields, beyond which is the Sacramento International Airport.

The PEA Workplan includes activities to investigate the Site for potential impacts from the following environmental conditions that may pose a threat to human health or the environment:

- Organochlorine pesticides (OCPs), arsenic and lead in surface soils from potential application of agricultural chemicals in agricultural use areas; and,
- OCPs, arsenic and lead in surface soils from potential off-site agricultural chemical use in irrigation channels.

If Site conditions differ from those presented in the approved PEA Workplan, additional work may be necessary. In accordance with Education Code section 17210.1(b), the District must provide written notice to residents and businesses in the immediate area, approved in form by DTSC, at least five days in advance of field investigation activities (as appropriate). In addition, the District shall post the fieldwork notice at various locations around the Site, visible from public rights-of-way. The intent of this requirement is to provide notice of fieldwork such as drilling, sampling, and other environmental data collection activities to anyone who lives or works in the line of sight of the Site. Please notify DTSC a minimum of 48 hours in advance of schedule changes.

Pursuant to Education Code section 17213.1, subdivision (a)(6), concurrent with submission of the Draft PEA Report to DTSC, the District shall both publish a notice in a local newspaper of general circulation and post the notice in a prominent manner at the Site. The notice should state the District's intent for making the PEA Report available for public review by either Option A (Education Code section 17213.1, subdivision (a)(6)(A)) or Option B (Education Code section 17213.1, subdivision (a)(6)(B)). A copy of the notice should be submitted to DTSC with the Draft PEA Report.

If you have any questions regarding the project, please contact me at (916) 255-3577 or via email at Jose.Luevano@dtsc.ca.gov.

Sincerely,



José Luévano
Project Manager
Northern California Schools Unit
Site Mitigation and Restoration Program

cc: (via email)

Mr. Alan Churchill, PG
Project Geologist
Padre Associates, Inc.
AChurchill@padreinc.com

Mr. Alan Klein, REPA, CPESC, QSD/QSP
Senior Environmental Scientist
Padre Associates, Inc.
AKlein@padreinc.com

Ms. Valerie Hanley, PhD
Staff Toxicologist
Sacramento Office
Department of Toxic Substances Control
Valerie.Hanley@dtsc.ca.gov

Mr. José Salcedo, PE
Chief, Northern California Schools Unit
Sacramento Office
Department of Toxic Substances Control
Jose.Salcedo@dtsc.ca.gov

APPENDIX B
QUALITY ASSURANCE PROJECT PLAN

APPENDIX C

QUALITY ASSURANCE PROJECT PLAN (QAPP)

The QA/QC procedures will be employed in both the field and the laboratory. QA/QC samples include the collection of equipment rinseate samples, field blank samples, and duplicate split samples.

FIELD QA/QC PROCEDURES

Field QA/QC procedures will be performed at the site and consist of the following measures:

- COC forms will be used for sample submittal to the laboratory; and
- Daily information regarding sample collection will be recorded by Padre in Field Logbooks. Sample types, soil descriptions, sample identification numbers, and sample times will be collected and recorded on Field Data Sheets and in the Field Logbooks. Pages will be numbered, dated, and signed by the person performing data entry.

Field QA/QC samples will be collected and submitted for analysis along with the discrete soil samples using the following sampling frequency:

- Equipment blanks - One equipment rinseate blank per sample event;
- Field blanks - One field blank sample per sample event; and
- Field duplicates – Approximately 10% of the discrete soil samples for OCPs and arsenic will be split by the laboratory and analyzed as duplicate soil samples.

Equipment Rinseate Blanks

An equipment rinseate blank (equipment blank) will be collected from the final water rinsed over equipment after cleaning activities have been performed. The equipment blank will be collected from non-dedicated (reusable) sampling equipment such as soil sampling tools. The equipment blank will be analyzed for the presence of arsenic and lead using the same analytical methods used on the unique soil samples.

To collect an equipment blank sample, rinse water will be carefully poured over or through the recently cleaned equipment, and collected directly into an appropriate sample container held over a bucket. Equipment blank samples will be labeled and handled in the same manner as all other samples.

Field Blanks

Field blank samples consist of a sample of the deionized water that was used to rinse sampling equipment during equipment cleaning activities. The purpose of the field blank sample is to evaluate the rinse water for compounds detected in the soil samples. A field blank sample will be collected by pouring rinse water into the appropriate sample container. The field blank will be analyzed for the presence of arsenic and lead using the same analytical method used on the unique soil samples, and the field blank samples will be handled in the same manner as all other samples.

Duplicate Sample(s)

Duplicate soil sample(s) will be analyzed in order to evaluate the analytical procedures and methods employed by the laboratory. The field duplicate sample(s) will be selected from the original soil samples, and split by the laboratory. Duplicate soil samples will be analyzed for OCPs, arsenic, and lead.

Laboratory QA/QC Procedures

Laboratory QA/QC procedures include the following:

- Laboratory analyses will be performed within the required holding time for all samples;
- Appropriate minimum reporting limits (RLs) will be used for each analysis;
- A state-certified hazardous waste testing laboratory will conduct the required analysis;
- The laboratory will provide the following information for each sample:
 - Method blank data;
 - Surrogate recovery, instrument tuning, and calibration data; and
 - Signed laboratory reports including the sample designation, date of sample collection, date of sample analysis, laboratory analytical method employed, sample volume, and the minimum RL.

To determine whether Quality Assurance/Quality Control (QA/QC) requirements for sampling and analysis were met for the project, and to determine whether the data are usable for risk assessment purposes, a cursory data validation review will be done on the data summary package provided by the laboratory. This review will include an evaluation of chain-of-custody documentation, holding times, reporting limits, precision and accuracy of goals, representativeness, comparability, and completeness (PARCC) of the data. QA/QC requirements that are not met will be evaluated in the 'uncertainty' portion of the risk assessment. Documentation of the data validation review will be included with the PEA report.

The requirements of PARCC are specified below:

Precision

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the sample process under similar conditions.

Analytical precision is a measurement of the variability associated with duplicate or replicate analyses of the same sample in the laboratory, and is determined by analysis of laboratory quality control samples such as duplicate control samples (LCSD or DCS), matrix spike duplicates (MSD), or sample duplicates. If the recoveries of analytes in the specified control samples are comparable within established control limits, then precision is within limits.

Total precision is a measurement of the variability associated with the entire sampling and analytical process. It is determined by analysis of duplicate or replicate field samples, and measures variability introduced by other than laboratory and field operations. Field duplicate samples are analyzed to assess field and analytical precision.

Duplicate results are assessed using the relative percent difference (RPD) between duplicate measurements. If the RPD for laboratory quality control samples exceeds 30 percent, data shall be qualified as described in the applicable validation procedure. If the RPD between primary and duplicate field samples exceeds 100 percent for soil, data shall be qualified as described in the applicable validation procedure. The RPD shall be calculated as follows:

$$\%RPD = 200 \times \frac{X_2 - X_1}{X_2 + X_1}$$

Where X_2 is the larger of the two observed values, and X_1 is the smaller of the two observed values.

Accuracy

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systematic error. It reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. Accuracy of laboratory analyses shall be assessed by laboratory control samples, surrogate standards, matrix spikes, and initial and continuing calibrations of instruments. Laboratory accuracy is expressed as the percent recovery (%R). If the percent recovery is determined to be outside of acceptance criteria, data shall be qualified as described in the applicable validation procedure. The calculation of percent recovery is provided below:

$$\%R = 100 \times \frac{X_s - X}{T}$$

Where X_s is the measured value of the spiked sample, X is the measured value of the unspiked sample, and T is the true value of the spike solution added. Field accuracy shall be assessed through the analysis of field equipment blanks. Analysis of blanks shall monitor errors associated with the sampling process and field contamination. The data quality objective for field equipment blanks is that all values are less than the reporting limit for each target constituent. If contamination is reported in a field equipment blank, the associated data shall be qualified as described in the applicable validation procedure.

Representativeness

Representativeness is the degree to which data accurately and precisely represent selected characteristics of the media sampled. Representativeness of data collection is addressed by careful preparation of sampling and analysis programs. This QA/QC, together with the PEA Workplan, addresses representativeness by specifying sufficient and proper numbers and locations of samples; incorporating appropriate sampling methodologies; specifying proper sample collection techniques and decontamination procedures; selecting appropriate laboratory methods to prepare and analyze soil samples; and establishing proper field and laboratory QA/QC procedures.

Completeness

Completeness is the amount of valid data obtained compared to the amount that was expected under ideal conditions. The number of valid results divided by the number of possible results, expressed as a percentage, determines the completeness of the data set. The objective for completeness is to recover at least 90 percent of the planned data to support field efforts. The formula for is completeness is presented below:

$$\% \text{ Completeness} = 100 \times \frac{\text{number of valid results}}{\text{number of expected results}}$$

Comparability

Comparability is an expression of confidence with which one data set can be compared to another data set. The objective of comparability is to ensure that data developed during the PEA investigation are comparable to site knowledge and adequately address applicable criteria or standards established by DTSC or the USEPA.

Detection Limits

Detection limits for the proposed analytes (OCPs) will be at or below the respective screening levels provided in DTSC's HHRA Note 3 (June 2020) and/or the U.S. EPA's Region 9 RSLs (May 2020). Laboratory detection limits for arsenic and lead will be 0.5 mg/kg.

**APPENDIX C
LABORATORY ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY DOCUMENTATION**



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2011601

Report Created for: Padre Associates. Inc.

350 University Ave., Suite 250
Sacramento, CA 95825

Project Contact: Alan J. Klein

Project P.O.:

Project: 1701-2122; TRUSD-Northlake PEA

Project Received: 11/12/2020

Analytical Report reviewed & approved for release on 11/18/2020 by:

Yen Cao

Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.





Glossary of Terms & Qualifier Definitions

Client: Padre Associates. Inc.
Project: 1701-2122; TRUSD-Northlake PEA
WorkOrder: 2011601

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Padre Associates. Inc.
Project: 1701-2122; TRUSD-Northlake PEA
WorkOrder: 2011601

Analytical Qualifiers

B Analyte detected in the associated Method Blank and in the sample.
J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
P Agreement between quantitative confirmation results exceed method recommended limits.

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-1	2011601-001A	Soil	11/11/2020 09:18	GC23 11132032.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/13/2020 23:17
a-BHC	ND	0.0010	1	11/13/2020 23:17
b-BHC	ND	0.0010	1	11/13/2020 23:17
d-BHC	ND	0.0010	1	11/13/2020 23:17
g-BHC	ND	0.0010	1	11/13/2020 23:17
Chlordane (Technical)	ND	0.025	1	11/13/2020 23:17
a-Chlordane	ND	0.0010	1	11/13/2020 23:17
g-Chlordane	ND	0.0010	1	11/13/2020 23:17
p,p-DDD	ND	0.0010	1	11/13/2020 23:17
p,p-DDE	ND	0.0010	1	11/13/2020 23:17
p,p-DDT	0.0018	0.0010	1	11/13/2020 23:17
Dieldrin	ND	0.0010	1	11/13/2020 23:17
Endosulfan I	ND	0.0010	1	11/13/2020 23:17
Endosulfan II	ND	0.0010	1	11/13/2020 23:17
Endosulfan sulfate	ND	0.0010	1	11/13/2020 23:17
Endrin	ND	0.0010	1	11/13/2020 23:17
Endrin aldehyde	ND	0.0010	1	11/13/2020 23:17
Endrin ketone	ND	0.0010	1	11/13/2020 23:17
Heptachlor	ND	0.0010	1	11/13/2020 23:17
Heptachlor epoxide	ND	0.0010	1	11/13/2020 23:17
Hexachlorobenzene	ND	0.010	1	11/13/2020 23:17
Hexachlorocyclopentadiene	ND	0.020	1	11/13/2020 23:17
Methoxychlor	ND	0.0010	1	11/13/2020 23:17
Toxaphene	ND	0.050	1	11/13/2020 23:17

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	60-130	11/13/2020 23:17

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-2	2011601-002A	Soil	11/11/2020 08:13	GC23 11132014.d	209298

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0010	1	11/13/2020 18:36
a-BHC	ND		0.0010	1	11/13/2020 18:36
b-BHC	0.0012	P	0.0010	1	11/13/2020 18:36
d-BHC	ND		0.0010	1	11/13/2020 18:36
g-BHC	ND		0.0010	1	11/13/2020 18:36
Chlordane (Technical)	ND		0.025	1	11/13/2020 18:36
a-Chlordane	ND		0.0010	1	11/13/2020 18:36
g-Chlordane	ND		0.0010	1	11/13/2020 18:36
p,p-DDD	ND		0.0010	1	11/13/2020 18:36
p,p-DDE	ND		0.0010	1	11/13/2020 18:36
p,p-DDT	0.0013		0.0010	1	11/13/2020 18:36
Dieldrin	ND		0.0010	1	11/13/2020 18:36
Endosulfan I	ND		0.0010	1	11/13/2020 18:36
Endosulfan II	ND		0.0010	1	11/13/2020 18:36
Endosulfan sulfate	ND		0.0010	1	11/13/2020 18:36
Endrin	ND		0.0010	1	11/13/2020 18:36
Endrin aldehyde	ND		0.0010	1	11/13/2020 18:36
Endrin ketone	ND		0.0010	1	11/13/2020 18:36
Heptachlor	ND		0.0010	1	11/13/2020 18:36
Heptachlor epoxide	ND		0.0010	1	11/13/2020 18:36
Hexachlorobenzene	ND		0.010	1	11/13/2020 18:36
Hexachlorocyclopentadiene	ND		0.020	1	11/13/2020 18:36
Methoxychlor	ND		0.0010	1	11/13/2020 18:36
Toxaphene	ND		0.050	1	11/13/2020 18:36

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	91	60-130	11/13/2020 18:36

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-3	2011601-003A	Soil	11/10/2020 10:55	GC23 11132015.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/13/2020 18:52
a-BHC	ND	0.0010	1	11/13/2020 18:52
b-BHC	0.0010	0.0010	1	11/13/2020 18:52
d-BHC	ND	0.0010	1	11/13/2020 18:52
g-BHC	ND	0.0010	1	11/13/2020 18:52
Chlordane (Technical)	ND	0.025	1	11/13/2020 18:52
a-Chlordane	ND	0.0010	1	11/13/2020 18:52
g-Chlordane	ND	0.0010	1	11/13/2020 18:52
p,p-DDD	ND	0.0010	1	11/13/2020 18:52
p,p-DDE	ND	0.0010	1	11/13/2020 18:52
p,p-DDT	ND	0.0010	1	11/13/2020 18:52
Dieldrin	ND	0.0010	1	11/13/2020 18:52
Endosulfan I	ND	0.0010	1	11/13/2020 18:52
Endosulfan II	ND	0.0010	1	11/13/2020 18:52
Endosulfan sulfate	ND	0.0010	1	11/13/2020 18:52
Endrin	ND	0.0010	1	11/13/2020 18:52
Endrin aldehyde	ND	0.0010	1	11/13/2020 18:52
Endrin ketone	ND	0.0010	1	11/13/2020 18:52
Heptachlor	ND	0.0010	1	11/13/2020 18:52
Heptachlor epoxide	ND	0.0010	1	11/13/2020 18:52
Hexachlorobenzene	ND	0.010	1	11/13/2020 18:52
Hexachlorocyclopentadiene	ND	0.020	1	11/13/2020 18:52
Methoxychlor	ND	0.0010	1	11/13/2020 18:52
Toxaphene	ND	0.050	1	11/13/2020 18:52

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	94	60-130	11/13/2020 18:52

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-4	2011601-004A	Soil	11/10/2020 09:58	GC23 11132016.d	209298

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0010	1	11/13/2020 19:07
a-BHC	ND		0.0010	1	11/13/2020 19:07
b-BHC	0.0012	P	0.0010	1	11/13/2020 19:07
d-BHC	ND		0.0010	1	11/13/2020 19:07
g-BHC	ND		0.0010	1	11/13/2020 19:07
Chlordane (Technical)	ND		0.025	1	11/13/2020 19:07
a-Chlordane	ND		0.0010	1	11/13/2020 19:07
g-Chlordane	ND		0.0010	1	11/13/2020 19:07
p,p-DDD	ND		0.0010	1	11/13/2020 19:07
p,p-DDE	ND		0.0010	1	11/13/2020 19:07
p,p-DDT	ND		0.0010	1	11/13/2020 19:07
Dieldrin	ND		0.0010	1	11/13/2020 19:07
Endosulfan I	ND		0.0010	1	11/13/2020 19:07
Endosulfan II	ND		0.0010	1	11/13/2020 19:07
Endosulfan sulfate	ND		0.0010	1	11/13/2020 19:07
Endrin	ND		0.0010	1	11/13/2020 19:07
Endrin aldehyde	ND		0.0010	1	11/13/2020 19:07
Endrin ketone	ND		0.0010	1	11/13/2020 19:07
Heptachlor	ND		0.0010	1	11/13/2020 19:07
Heptachlor epoxide	ND		0.0010	1	11/13/2020 19:07
Hexachlorobenzene	ND		0.010	1	11/13/2020 19:07
Hexachlorocyclopentadiene	ND		0.020	1	11/13/2020 19:07
Methoxychlor	ND		0.0010	1	11/13/2020 19:07
Toxaphene	ND		0.050	1	11/13/2020 19:07

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	92	60-130	11/13/2020 19:07

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-5	2011601-005A	Soil	11/10/2020 11:10	GC23 11132017.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/13/2020 19:23
a-BHC	ND	0.0010	1	11/13/2020 19:23
b-BHC	ND	0.0010	1	11/13/2020 19:23
d-BHC	ND	0.0010	1	11/13/2020 19:23
g-BHC	ND	0.0010	1	11/13/2020 19:23
Chlordane (Technical)	ND	0.025	1	11/13/2020 19:23
a-Chlordane	ND	0.0010	1	11/13/2020 19:23
g-Chlordane	ND	0.0010	1	11/13/2020 19:23
p,p-DDD	ND	0.0010	1	11/13/2020 19:23
p,p-DDE	ND	0.0010	1	11/13/2020 19:23
p,p-DDT	ND	0.0010	1	11/13/2020 19:23
Dieldrin	ND	0.0010	1	11/13/2020 19:23
Endosulfan I	ND	0.0010	1	11/13/2020 19:23
Endosulfan II	ND	0.0010	1	11/13/2020 19:23
Endosulfan sulfate	ND	0.0010	1	11/13/2020 19:23
Endrin	ND	0.0010	1	11/13/2020 19:23
Endrin aldehyde	ND	0.0010	1	11/13/2020 19:23
Endrin ketone	ND	0.0010	1	11/13/2020 19:23
Heptachlor	ND	0.0010	1	11/13/2020 19:23
Heptachlor epoxide	ND	0.0010	1	11/13/2020 19:23
Hexachlorobenzene	ND	0.010	1	11/13/2020 19:23
Hexachlorocyclopentadiene	ND	0.020	1	11/13/2020 19:23
Methoxychlor	ND	0.0010	1	11/13/2020 19:23
Toxaphene	ND	0.050	1	11/13/2020 19:23

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	98	60-130	11/13/2020 19:23

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-5 DUPE	2011601-005B	Soil	11/10/2020 11:10	GC23 11132042.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:54
a-BHC	ND	0.0010	1	11/14/2020 01:54
b-BHC	ND	0.0010	1	11/14/2020 01:54
d-BHC	ND	0.0010	1	11/14/2020 01:54
g-BHC	ND	0.0010	1	11/14/2020 01:54
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:54
a-Chlordane	ND	0.0010	1	11/14/2020 01:54
g-Chlordane	ND	0.0010	1	11/14/2020 01:54
p,p-DDD	ND	0.0010	1	11/14/2020 01:54
p,p-DDE	ND	0.0010	1	11/14/2020 01:54
p,p-DDT	ND	0.0010	1	11/14/2020 01:54
Dieldrin	ND	0.0010	1	11/14/2020 01:54
Endosulfan I	ND	0.0010	1	11/14/2020 01:54
Endosulfan II	ND	0.0010	1	11/14/2020 01:54
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:54
Endrin	ND	0.0010	1	11/14/2020 01:54
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:54
Endrin ketone	ND	0.0010	1	11/14/2020 01:54
Heptachlor	ND	0.0010	1	11/14/2020 01:54
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:54
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:54
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:54
Methoxychlor	ND	0.0010	1	11/14/2020 01:54
Toxaphene	ND	0.050	1	11/14/2020 01:54

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	101	60-130	11/14/2020 01:54

Analyst(s): BRV

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-6	2011601-008A	Soil	11/10/2020 11:52	GC23 11132043.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 02:09
a-BHC	ND	0.0010	1	11/14/2020 02:09
b-BHC	ND	0.0010	1	11/14/2020 02:09
d-BHC	ND	0.0010	1	11/14/2020 02:09
g-BHC	ND	0.0010	1	11/14/2020 02:09
Chlordane (Technical)	ND	0.025	1	11/14/2020 02:09
a-Chlordane	ND	0.0010	1	11/14/2020 02:09
g-Chlordane	ND	0.0010	1	11/14/2020 02:09
p,p-DDD	ND	0.0010	1	11/14/2020 02:09
p,p-DDE	ND	0.0010	1	11/14/2020 02:09
p,p-DDT	0.0011	0.0010	1	11/14/2020 02:09
Dieldrin	ND	0.0010	1	11/14/2020 02:09
Endosulfan I	ND	0.0010	1	11/14/2020 02:09
Endosulfan II	ND	0.0010	1	11/14/2020 02:09
Endosulfan sulfate	ND	0.0010	1	11/14/2020 02:09
Endrin	ND	0.0010	1	11/14/2020 02:09
Endrin aldehyde	ND	0.0010	1	11/14/2020 02:09
Endrin ketone	ND	0.0010	1	11/14/2020 02:09
Heptachlor	ND	0.0010	1	11/14/2020 02:09
Heptachlor epoxide	ND	0.0010	1	11/14/2020 02:09
Hexachlorobenzene	ND	0.010	1	11/14/2020 02:09
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 02:09
Methoxychlor	ND	0.0010	1	11/14/2020 02:09
Toxaphene	ND	0.050	1	11/14/2020 02:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	60-130	11/14/2020 02:09

Analyst(s): BRV

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-7	2011601-009A	Soil	11/10/2020 10:42	GC23 11132044.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 02:25
a-BHC	ND	0.0010	1	11/14/2020 02:25
b-BHC	ND	0.0010	1	11/14/2020 02:25
d-BHC	ND	0.0010	1	11/14/2020 02:25
g-BHC	ND	0.0010	1	11/14/2020 02:25
Chlordane (Technical)	ND	0.025	1	11/14/2020 02:25
a-Chlordane	ND	0.0010	1	11/14/2020 02:25
g-Chlordane	ND	0.0010	1	11/14/2020 02:25
p,p-DDD	ND	0.0010	1	11/14/2020 02:25
p,p-DDE	ND	0.0010	1	11/14/2020 02:25
p,p-DDT	ND	0.0010	1	11/14/2020 02:25
Dieldrin	ND	0.0010	1	11/14/2020 02:25
Endosulfan I	ND	0.0010	1	11/14/2020 02:25
Endosulfan II	ND	0.0010	1	11/14/2020 02:25
Endosulfan sulfate	ND	0.0010	1	11/14/2020 02:25
Endrin	ND	0.0010	1	11/14/2020 02:25
Endrin aldehyde	ND	0.0010	1	11/14/2020 02:25
Endrin ketone	ND	0.0010	1	11/14/2020 02:25
Heptachlor	ND	0.0010	1	11/14/2020 02:25
Heptachlor epoxide	ND	0.0010	1	11/14/2020 02:25
Hexachlorobenzene	ND	0.010	1	11/14/2020 02:25
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 02:25
Methoxychlor	ND	0.0010	1	11/14/2020 02:25
Toxaphene	ND	0.050	1	11/14/2020 02:25

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	100	60-130	11/14/2020 02:25

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-8	2011601-010A	Soil	11/10/2020 12:21	GC23 11132045.d	209298

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0010	1	11/14/2020 02:40
a-BHC	ND		0.0010	1	11/14/2020 02:40
b-BHC	ND		0.0010	1	11/14/2020 02:40
d-BHC	ND		0.0010	1	11/14/2020 02:40
g-BHC	ND		0.0010	1	11/14/2020 02:40
Chlordane (Technical)	ND		0.025	1	11/14/2020 02:40
a-Chlordane	ND		0.0010	1	11/14/2020 02:40
g-Chlordane	ND		0.0010	1	11/14/2020 02:40
p,p-DDD	0.0013		0.0010	1	11/14/2020 02:40
p,p-DDE	0.0026		0.0010	1	11/14/2020 02:40
p,p-DDT	0.0010	P	0.0010	1	11/14/2020 02:40
Dieldrin	ND		0.0010	1	11/14/2020 02:40
Endosulfan I	ND		0.0010	1	11/14/2020 02:40
Endosulfan II	ND		0.0010	1	11/14/2020 02:40
Endosulfan sulfate	ND		0.0010	1	11/14/2020 02:40
Endrin	ND		0.0010	1	11/14/2020 02:40
Endrin aldehyde	ND		0.0010	1	11/14/2020 02:40
Endrin ketone	ND		0.0010	1	11/14/2020 02:40
Heptachlor	ND		0.0010	1	11/14/2020 02:40
Heptachlor epoxide	ND		0.0010	1	11/14/2020 02:40
Hexachlorobenzene	ND		0.010	1	11/14/2020 02:40
Hexachlorocyclopentadiene	ND		0.020	1	11/14/2020 02:40
Methoxychlor	ND		0.0010	1	11/14/2020 02:40
Toxaphene	ND		0.050	1	11/14/2020 02:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	60-130	11/14/2020 02:40

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-9	2011601-011A	Soil	11/11/2020 08:44	GC23 11132046.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 02:56
a-BHC	ND	0.0010	1	11/14/2020 02:56
b-BHC	ND	0.0010	1	11/14/2020 02:56
d-BHC	ND	0.0010	1	11/14/2020 02:56
g-BHC	ND	0.0010	1	11/14/2020 02:56
Chlordane (Technical)	ND	0.025	1	11/14/2020 02:56
a-Chlordane	ND	0.0010	1	11/14/2020 02:56
g-Chlordane	ND	0.0010	1	11/14/2020 02:56
p,p-DDD	ND	0.0010	1	11/14/2020 02:56
p,p-DDE	ND	0.0010	1	11/14/2020 02:56
p,p-DDT	ND	0.0010	1	11/14/2020 02:56
Dieldrin	ND	0.0010	1	11/14/2020 02:56
Endosulfan I	ND	0.0010	1	11/14/2020 02:56
Endosulfan II	ND	0.0010	1	11/14/2020 02:56
Endosulfan sulfate	ND	0.0010	1	11/14/2020 02:56
Endrin	ND	0.0010	1	11/14/2020 02:56
Endrin aldehyde	ND	0.0010	1	11/14/2020 02:56
Endrin ketone	ND	0.0010	1	11/14/2020 02:56
Heptachlor	ND	0.0010	1	11/14/2020 02:56
Heptachlor epoxide	ND	0.0010	1	11/14/2020 02:56
Hexachlorobenzene	ND	0.010	1	11/14/2020 02:56
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 02:56
Methoxychlor	ND	0.0010	1	11/14/2020 02:56
Toxaphene	ND	0.050	1	11/14/2020 02:56

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	89	60-130	11/14/2020 02:56

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-10	2011601-012A	Soil	11/10/2020 11:00	GC23 11132047.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 03:12
a-BHC	ND	0.0010	1	11/14/2020 03:12
b-BHC	ND	0.0010	1	11/14/2020 03:12
d-BHC	ND	0.0010	1	11/14/2020 03:12
g-BHC	ND	0.0010	1	11/14/2020 03:12
Chlordane (Technical)	ND	0.025	1	11/14/2020 03:12
a-Chlordane	ND	0.0010	1	11/14/2020 03:12
g-Chlordane	ND	0.0010	1	11/14/2020 03:12
p,p-DDD	ND	0.0010	1	11/14/2020 03:12
p,p-DDE	ND	0.0010	1	11/14/2020 03:12
p,p-DDT	ND	0.0010	1	11/14/2020 03:12
Dieldrin	ND	0.0010	1	11/14/2020 03:12
Endosulfan I	ND	0.0010	1	11/14/2020 03:12
Endosulfan II	ND	0.0010	1	11/14/2020 03:12
Endosulfan sulfate	ND	0.0010	1	11/14/2020 03:12
Endrin	ND	0.0010	1	11/14/2020 03:12
Endrin aldehyde	ND	0.0010	1	11/14/2020 03:12
Endrin ketone	ND	0.0010	1	11/14/2020 03:12
Heptachlor	ND	0.0010	1	11/14/2020 03:12
Heptachlor epoxide	ND	0.0010	1	11/14/2020 03:12
Hexachlorobenzene	ND	0.010	1	11/14/2020 03:12
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 03:12
Methoxychlor	ND	0.0010	1	11/14/2020 03:12
Toxaphene	ND	0.050	1	11/14/2020 03:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	60-130	11/14/2020 03:12

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-11	2011601-013A	Soil	11/10/2020 10:02	GC23 11132048.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 03:27
a-BHC	ND	0.0010	1	11/14/2020 03:27
b-BHC	ND	0.0010	1	11/14/2020 03:27
d-BHC	ND	0.0010	1	11/14/2020 03:27
g-BHC	ND	0.0010	1	11/14/2020 03:27
Chlordane (Technical)	ND	0.025	1	11/14/2020 03:27
a-Chlordane	ND	0.0010	1	11/14/2020 03:27
g-Chlordane	ND	0.0010	1	11/14/2020 03:27
p,p-DDD	ND	0.0010	1	11/14/2020 03:27
p,p-DDE	ND	0.0010	1	11/14/2020 03:27
p,p-DDT	ND	0.0010	1	11/14/2020 03:27
Dieldrin	ND	0.0010	1	11/14/2020 03:27
Endosulfan I	ND	0.0010	1	11/14/2020 03:27
Endosulfan II	ND	0.0010	1	11/14/2020 03:27
Endosulfan sulfate	ND	0.0010	1	11/14/2020 03:27
Endrin	ND	0.0010	1	11/14/2020 03:27
Endrin aldehyde	ND	0.0010	1	11/14/2020 03:27
Endrin ketone	ND	0.0010	1	11/14/2020 03:27
Heptachlor	ND	0.0010	1	11/14/2020 03:27
Heptachlor epoxide	ND	0.0010	1	11/14/2020 03:27
Hexachlorobenzene	ND	0.010	1	11/14/2020 03:27
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 03:27
Methoxychlor	ND	0.0010	1	11/14/2020 03:27
Toxaphene	ND	0.050	1	11/14/2020 03:27

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	96	60-130	11/14/2020 03:27

Analyst(s): BRV

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-12	2011601-014A	Soil	11/10/2020 11:42	GC23 11132049.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 03:43
a-BHC	ND	0.0010	1	11/14/2020 03:43
b-BHC	ND	0.0010	1	11/14/2020 03:43
d-BHC	ND	0.0010	1	11/14/2020 03:43
g-BHC	ND	0.0010	1	11/14/2020 03:43
Chlordane (Technical)	ND	0.025	1	11/14/2020 03:43
a-Chlordane	ND	0.0010	1	11/14/2020 03:43
g-Chlordane	ND	0.0010	1	11/14/2020 03:43
p,p-DDD	ND	0.0010	1	11/14/2020 03:43
p,p-DDE	ND	0.0010	1	11/14/2020 03:43
p,p-DDT	ND	0.0010	1	11/14/2020 03:43
Dieldrin	ND	0.0010	1	11/14/2020 03:43
Endosulfan I	ND	0.0010	1	11/14/2020 03:43
Endosulfan II	ND	0.0010	1	11/14/2020 03:43
Endosulfan sulfate	ND	0.0010	1	11/14/2020 03:43
Endrin	ND	0.0010	1	11/14/2020 03:43
Endrin aldehyde	ND	0.0010	1	11/14/2020 03:43
Endrin ketone	ND	0.0010	1	11/14/2020 03:43
Heptachlor	ND	0.0010	1	11/14/2020 03:43
Heptachlor epoxide	ND	0.0010	1	11/14/2020 03:43
Hexachlorobenzene	ND	0.010	1	11/14/2020 03:43
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 03:43
Methoxychlor	ND	0.0010	1	11/14/2020 03:43
Toxaphene	ND	0.050	1	11/14/2020 03:43

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	99	60-130	11/14/2020 03:43

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-13	2011601-017A	Soil	11/10/2020 11:55	GC23 11132050.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 03:59
a-BHC	ND	0.0010	1	11/14/2020 03:59
b-BHC	ND	0.0010	1	11/14/2020 03:59
d-BHC	ND	0.0010	1	11/14/2020 03:59
g-BHC	ND	0.0010	1	11/14/2020 03:59
Chlordane (Technical)	ND	0.025	1	11/14/2020 03:59
a-Chlordane	ND	0.0010	1	11/14/2020 03:59
g-Chlordane	ND	0.0010	1	11/14/2020 03:59
p,p-DDD	ND	0.0010	1	11/14/2020 03:59
p,p-DDE	ND	0.0010	1	11/14/2020 03:59
p,p-DDT	ND	0.0010	1	11/14/2020 03:59
Dieldrin	ND	0.0010	1	11/14/2020 03:59
Endosulfan I	ND	0.0010	1	11/14/2020 03:59
Endosulfan II	ND	0.0010	1	11/14/2020 03:59
Endosulfan sulfate	ND	0.0010	1	11/14/2020 03:59
Endrin	ND	0.0010	1	11/14/2020 03:59
Endrin aldehyde	ND	0.0010	1	11/14/2020 03:59
Endrin ketone	ND	0.0010	1	11/14/2020 03:59
Heptachlor	ND	0.0010	1	11/14/2020 03:59
Heptachlor epoxide	ND	0.0010	1	11/14/2020 03:59
Hexachlorobenzene	ND	0.010	1	11/14/2020 03:59
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 03:59
Methoxychlor	ND	0.0010	1	11/14/2020 03:59
Toxaphene	ND	0.050	1	11/14/2020 03:59

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	97	60-130	11/14/2020 03:59

Analyst(s): BRV



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-14	2011601-018A	Soil	11/10/2020 10:46	GC23 11132051.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 04:14
a-BHC	ND	0.0010	1	11/14/2020 04:14
b-BHC	ND	0.0010	1	11/14/2020 04:14
d-BHC	ND	0.0010	1	11/14/2020 04:14
g-BHC	ND	0.0010	1	11/14/2020 04:14
Chlordane (Technical)	ND	0.025	1	11/14/2020 04:14
a-Chlordane	ND	0.0010	1	11/14/2020 04:14
g-Chlordane	ND	0.0010	1	11/14/2020 04:14
p,p-DDD	ND	0.0010	1	11/14/2020 04:14
p,p-DDE	ND	0.0010	1	11/14/2020 04:14
p,p-DDT	ND	0.0010	1	11/14/2020 04:14
Dieldrin	ND	0.0010	1	11/14/2020 04:14
Endosulfan I	ND	0.0010	1	11/14/2020 04:14
Endosulfan II	ND	0.0010	1	11/14/2020 04:14
Endosulfan sulfate	ND	0.0010	1	11/14/2020 04:14
Endrin	ND	0.0010	1	11/14/2020 04:14
Endrin aldehyde	ND	0.0010	1	11/14/2020 04:14
Endrin ketone	ND	0.0010	1	11/14/2020 04:14
Heptachlor	ND	0.0010	1	11/14/2020 04:14
Heptachlor epoxide	ND	0.0010	1	11/14/2020 04:14
Hexachlorobenzene	ND	0.010	1	11/14/2020 04:14
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 04:14
Methoxychlor	ND	0.0010	1	11/14/2020 04:14
Toxaphene	ND	0.050	1	11/14/2020 04:14

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	103	60-130	11/14/2020 04:14

Analyst(s): BRV

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-15	2011601-019A	Soil	11/10/2020 12:26	GC40 11132069.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 00:33
a-BHC	ND	0.0010	1	11/14/2020 00:33
b-BHC	ND	0.0010	1	11/14/2020 00:33
d-BHC	ND	0.0010	1	11/14/2020 00:33
g-BHC	ND	0.0010	1	11/14/2020 00:33
Chlordane (Technical)	ND	0.025	1	11/14/2020 00:33
a-Chlordane	ND	0.0010	1	11/14/2020 00:33
g-Chlordane	ND	0.0010	1	11/14/2020 00:33
p,p-DDD	ND	0.0010	1	11/14/2020 00:33
p,p-DDE	ND	0.0010	1	11/14/2020 00:33
p,p-DDT	ND	0.0010	1	11/14/2020 00:33
Dieldrin	ND	0.0010	1	11/14/2020 00:33
Endosulfan I	ND	0.0010	1	11/14/2020 00:33
Endosulfan II	ND	0.0010	1	11/14/2020 00:33
Endosulfan sulfate	ND	0.0010	1	11/14/2020 00:33
Endrin	ND	0.0010	1	11/14/2020 00:33
Endrin aldehyde	ND	0.0010	1	11/14/2020 00:33
Endrin ketone	ND	0.0010	1	11/14/2020 00:33
Heptachlor	ND	0.0010	1	11/14/2020 00:33
Heptachlor epoxide	ND	0.0010	1	11/14/2020 00:33
Hexachlorobenzene	ND	0.010	1	11/14/2020 00:33
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 00:33
Methoxychlor	ND	0.0010	1	11/14/2020 00:33
Toxaphene	ND	0.050	1	11/14/2020 00:33

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	111	60-130	11/14/2020 00:33

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
CS-15 DUPE	2011601-019B	Soil	11/10/2020 12:26	GC40 11132070.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 00:46
a-BHC	ND	0.0010	1	11/14/2020 00:46
b-BHC	ND	0.0010	1	11/14/2020 00:46
d-BHC	ND	0.0010	1	11/14/2020 00:46
g-BHC	ND	0.0010	1	11/14/2020 00:46
Chlordane (Technical)	ND	0.025	1	11/14/2020 00:46
a-Chlordane	ND	0.0010	1	11/14/2020 00:46
g-Chlordane	ND	0.0010	1	11/14/2020 00:46
p,p-DDD	ND	0.0010	1	11/14/2020 00:46
p,p-DDE	ND	0.0010	1	11/14/2020 00:46
p,p-DDT	ND	0.0010	1	11/14/2020 00:46
Dieldrin	ND	0.0010	1	11/14/2020 00:46
Endosulfan I	ND	0.0010	1	11/14/2020 00:46
Endosulfan II	ND	0.0010	1	11/14/2020 00:46
Endosulfan sulfate	ND	0.0010	1	11/14/2020 00:46
Endrin	ND	0.0010	1	11/14/2020 00:46
Endrin aldehyde	ND	0.0010	1	11/14/2020 00:46
Endrin ketone	ND	0.0010	1	11/14/2020 00:46
Heptachlor	ND	0.0010	1	11/14/2020 00:46
Heptachlor epoxide	ND	0.0010	1	11/14/2020 00:46
Hexachlorobenzene	ND	0.010	1	11/14/2020 00:46
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 00:46
Methoxychlor	ND	0.0010	1	11/14/2020 00:46
Toxaphene	ND	0.050	1	11/14/2020 00:46

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	106	60-130	11/14/2020 00:46

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-1 (WL)	2011601-020A	Soil	11/11/2020 09:02	GC40 11132071.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:01
a-BHC	ND	0.0010	1	11/14/2020 01:01
b-BHC	ND	0.0010	1	11/14/2020 01:01
d-BHC	ND	0.0010	1	11/14/2020 01:01
g-BHC	ND	0.0010	1	11/14/2020 01:01
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:01
a-Chlordane	ND	0.0010	1	11/14/2020 01:01
g-Chlordane	ND	0.0010	1	11/14/2020 01:01
p,p-DDD	ND	0.0010	1	11/14/2020 01:01
p,p-DDE	0.0013	0.0010	1	11/14/2020 01:01
p,p-DDT	ND	0.0010	1	11/14/2020 01:01
Dieldrin	ND	0.0010	1	11/14/2020 01:01
Endosulfan I	ND	0.0010	1	11/14/2020 01:01
Endosulfan II	ND	0.0010	1	11/14/2020 01:01
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:01
Endrin	ND	0.0010	1	11/14/2020 01:01
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:01
Endrin ketone	ND	0.0010	1	11/14/2020 01:01
Heptachlor	ND	0.0010	1	11/14/2020 01:01
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:01
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:01
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:01
Methoxychlor	ND	0.0010	1	11/14/2020 01:01
Toxaphene	ND	0.050	1	11/14/2020 01:01

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	101	60-130	11/14/2020 01:01

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-2 (B)	2011601-021A	Soil	11/11/2020 09:05	GC40 11132072.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:14
a-BHC	ND	0.0010	1	11/14/2020 01:14
b-BHC	ND	0.0010	1	11/14/2020 01:14
d-BHC	ND	0.0010	1	11/14/2020 01:14
g-BHC	ND	0.0010	1	11/14/2020 01:14
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:14
a-Chlordane	ND	0.0010	1	11/14/2020 01:14
g-Chlordane	ND	0.0010	1	11/14/2020 01:14
p,p-DDD	ND	0.0010	1	11/14/2020 01:14
p,p-DDE	ND	0.0010	1	11/14/2020 01:14
p,p-DDT	ND	0.0010	1	11/14/2020 01:14
Dieldrin	ND	0.0010	1	11/14/2020 01:14
Endosulfan I	ND	0.0010	1	11/14/2020 01:14
Endosulfan II	ND	0.0010	1	11/14/2020 01:14
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:14
Endrin	ND	0.0010	1	11/14/2020 01:14
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:14
Endrin ketone	ND	0.0010	1	11/14/2020 01:14
Heptachlor	ND	0.0010	1	11/14/2020 01:14
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:14
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:14
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:14
Methoxychlor	ND	0.0010	1	11/14/2020 01:14
Toxaphene	ND	0.050	1	11/14/2020 01:14

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	60-130	11/14/2020 01:14

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-3 (WL)	2011601-022A	Soil	11/11/2020 09:10	GC40 11132073.d	209298

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:28
a-BHC	ND	0.0010	1	11/14/2020 01:28
b-BHC	ND	0.0010	1	11/14/2020 01:28
d-BHC	ND	0.0010	1	11/14/2020 01:28
g-BHC	ND	0.0010	1	11/14/2020 01:28
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:28
a-Chlordane	ND	0.0010	1	11/14/2020 01:28
g-Chlordane	ND	0.0010	1	11/14/2020 01:28
p,p-DDD	ND	0.0010	1	11/14/2020 01:28
p,p-DDE	ND	0.0010	1	11/14/2020 01:28
p,p-DDT	ND	0.0010	1	11/14/2020 01:28
Dieldrin	ND	0.0010	1	11/14/2020 01:28
Endosulfan I	ND	0.0010	1	11/14/2020 01:28
Endosulfan II	ND	0.0010	1	11/14/2020 01:28
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:28
Endrin	ND	0.0010	1	11/14/2020 01:28
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:28
Endrin ketone	ND	0.0010	1	11/14/2020 01:28
Heptachlor	ND	0.0010	1	11/14/2020 01:28
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:28
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:28
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:28
Methoxychlor	ND	0.0010	1	11/14/2020 01:28
Toxaphene	ND	0.050	1	11/14/2020 01:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	60-130	11/14/2020 01:28

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-4 (B)	2011601-023A	Soil	11/11/2020 09:13	GC20 11162048.D	209299

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0010	1	11/17/2020 10:55
a-BHC	ND		0.0010	1	11/17/2020 10:55
b-BHC	ND		0.0010	1	11/17/2020 10:55
d-BHC	ND		0.0010	1	11/17/2020 10:55
g-BHC	ND		0.0010	1	11/17/2020 10:55
Chlordane (Technical)	ND		0.025	1	11/17/2020 10:55
a-Chlordane	ND		0.0010	1	11/17/2020 10:55
g-Chlordane	ND		0.0010	1	11/17/2020 10:55
p,p-DDD	ND		0.0010	1	11/17/2020 10:55
p,p-DDE	0.0012	P	0.0010	1	11/17/2020 10:55
p,p-DDT	0.0017		0.0010	1	11/17/2020 10:55
Dieldrin	ND		0.0010	1	11/17/2020 10:55
Endosulfan I	ND		0.0010	1	11/17/2020 10:55
Endosulfan II	ND		0.0010	1	11/17/2020 10:55
Endosulfan sulfate	0.0024		0.0010	1	11/17/2020 10:55
Endrin	ND		0.0010	1	11/17/2020 10:55
Endrin aldehyde	ND		0.0010	1	11/17/2020 10:55
Endrin ketone	ND		0.0010	1	11/17/2020 10:55
Heptachlor	ND		0.0010	1	11/17/2020 10:55
Heptachlor epoxide	ND		0.0010	1	11/17/2020 10:55
Hexachlorobenzene	ND		0.010	1	11/17/2020 10:55
Hexachlorocyclopentadiene	ND		0.020	1	11/17/2020 10:55
Methoxychlor	ND		0.0010	1	11/17/2020 10:55
Toxaphene	ND		0.050	1	11/17/2020 10:55

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	80	60-130	11/17/2020 10:55

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-5 (WL)	2011601-024A	Soil	11/11/2020 09:15	GC40 11132074.d	209299

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:42
a-BHC	ND	0.0010	1	11/14/2020 01:42
b-BHC	ND	0.0010	1	11/14/2020 01:42
d-BHC	ND	0.0010	1	11/14/2020 01:42
g-BHC	ND	0.0010	1	11/14/2020 01:42
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:42
a-Chlordane	ND	0.0010	1	11/14/2020 01:42
g-Chlordane	ND	0.0010	1	11/14/2020 01:42
p,p-DDD	ND	0.0010	1	11/14/2020 01:42
p,p-DDE	0.0010	0.0010	1	11/14/2020 01:42
p,p-DDT	ND	0.0010	1	11/14/2020 01:42
Dieldrin	ND	0.0010	1	11/14/2020 01:42
Endosulfan I	ND	0.0010	1	11/14/2020 01:42
Endosulfan II	ND	0.0010	1	11/14/2020 01:42
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:42
Endrin	ND	0.0010	1	11/14/2020 01:42
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:42
Endrin ketone	ND	0.0010	1	11/14/2020 01:42
Heptachlor	ND	0.0010	1	11/14/2020 01:42
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:42
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:42
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:42
Methoxychlor	ND	0.0010	1	11/14/2020 01:42
Toxaphene	ND	0.050	1	11/14/2020 01:42

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	60-130	11/14/2020 01:42

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-6 (B)	2011601-025A	Soil	11/11/2020 09:20	GC40 11132075.d	209299

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/14/2020 01:56
a-BHC	ND	0.0010	1	11/14/2020 01:56
b-BHC	ND	0.0010	1	11/14/2020 01:56
d-BHC	ND	0.0010	1	11/14/2020 01:56
g-BHC	ND	0.0010	1	11/14/2020 01:56
Chlordane (Technical)	ND	0.025	1	11/14/2020 01:56
a-Chlordane	ND	0.0010	1	11/14/2020 01:56
g-Chlordane	ND	0.0010	1	11/14/2020 01:56
p,p-DDD	ND	0.0010	1	11/14/2020 01:56
p,p-DDE	0.0012	0.0010	1	11/14/2020 01:56
p,p-DDT	ND	0.0010	1	11/14/2020 01:56
Dieldrin	ND	0.0010	1	11/14/2020 01:56
Endosulfan I	ND	0.0010	1	11/14/2020 01:56
Endosulfan II	ND	0.0010	1	11/14/2020 01:56
Endosulfan sulfate	ND	0.0010	1	11/14/2020 01:56
Endrin	ND	0.0010	1	11/14/2020 01:56
Endrin aldehyde	ND	0.0010	1	11/14/2020 01:56
Endrin ketone	ND	0.0010	1	11/14/2020 01:56
Heptachlor	ND	0.0010	1	11/14/2020 01:56
Heptachlor epoxide	ND	0.0010	1	11/14/2020 01:56
Hexachlorobenzene	ND	0.010	1	11/14/2020 01:56
Hexachlorocyclopentadiene	ND	0.020	1	11/14/2020 01:56
Methoxychlor	ND	0.0010	1	11/14/2020 01:56
Toxaphene	ND	0.050	1	11/14/2020 01:56

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	97	60-130	11/14/2020 01:56

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/12/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-7 (B)	2011601-026A	Soil	11/11/2020 09:22	GC20 11162051.D	209299

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	11/17/2020 11:40
a-BHC	ND	0.0010	1	11/17/2020 11:40
b-BHC	ND	0.0010	1	11/17/2020 11:40
d-BHC	ND	0.0010	1	11/17/2020 11:40
g-BHC	ND	0.0010	1	11/17/2020 11:40
Chlordane (Technical)	ND	0.025	1	11/17/2020 11:40
a-Chlordane	ND	0.0010	1	11/17/2020 11:40
g-Chlordane	ND	0.0010	1	11/17/2020 11:40
p,p-DDD	ND	0.0010	1	11/17/2020 11:40
p,p-DDE	0.0024	0.0010	1	11/17/2020 11:40
p,p-DDT	0.0017	0.0010	1	11/17/2020 11:40
Dieldrin	ND	0.0010	1	11/17/2020 11:40
Endosulfan I	ND	0.0010	1	11/17/2020 11:40
Endosulfan II	0.0012	0.0010	1	11/17/2020 11:40
Endosulfan sulfate	ND	0.0010	1	11/17/2020 11:40
Endrin	ND	0.0010	1	11/17/2020 11:40
Endrin aldehyde	ND	0.0010	1	11/17/2020 11:40
Endrin ketone	0.0016	0.0010	1	11/17/2020 11:40
Heptachlor	0.0016	0.0010	1	11/17/2020 11:40
Heptachlor epoxide	ND	0.0010	1	11/17/2020 11:40
Hexachlorobenzene	ND	0.010	1	11/17/2020 11:40
Hexachlorocyclopentadiene	ND	0.020	1	11/17/2020 11:40
Methoxychlor	ND	0.0010	1	11/17/2020 11:40
Toxaphene	ND	0.050	1	11/17/2020 11:40

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	73	60-130	11/17/2020 11:40

Analyst(s): CN



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EB#1	2011601-006A	Water	11/10/2020 12:30	ICP-MS5 463SMPL.d	209234

Analytes	Result	RL	DF	Date Analyzed
Arsenic	ND	0.50	1	11/13/2020 13:31
Lead	ND	0.50	1	11/13/2020 13:31

Surrogates	REC (%)	Limits
Terbium	104	70-130

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FB#1	2011601-007A	Water	11/10/2020 12:24	ICP-MS5 464SMPL.d	209234

Analytes	Result	RL	DF	Date Analyzed
Arsenic	ND	0.50	1	11/13/2020 13:34
Lead	ND	0.50	1	11/13/2020 13:34

Surrogates	REC (%)	Limits
Terbium	105	70-130

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
EB#2	2011601-015A	Water	11/11/2020 09:10	ICP-MS5 136SMPL.d	209234

Analytes	Result	RL	DF	Date Analyzed
Arsenic	ND	0.50	1	11/13/2020 17:28
Lead	ND	0.50	1	11/13/2020 17:28

Surrogates	REC (%)	Limits
Terbium	107	70-130

Analyst(s): DB

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FB#2	2011601-016A	Water	11/11/2020 09:00	ICP-MS4 264SMPL.d	209234

Analytes	Result	RL	DF	Date Analyzed
Arsenic	ND	0.50	1	11/16/2020 18:12
Lead	ND	0.50	1	11/16/2020 18:12

Surrogates	REC (%)	Limits	
Terbium	113	70-130	11/16/2020 18:12

Analyst(s): DB



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-6 (SURF)	2011601-002B	Soil	11/11/2020 08:13	ICP-MS5 196SMPL.d	209287
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic		6.5	0.50	1	11/13/2020 23:50
Lead		10	0.50	1	11/13/2020 23:50
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
Terbium		99	70-130		11/13/2020 23:50
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-8 (SURF)	2011601-003B	Soil	11/10/2020 10:55	ICP-MS5 201SMPL.d	209287
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic		5.4	0.50	1	11/14/2020 00:07
Lead		6.9	0.50	1	11/14/2020 00:07
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
Terbium		98	70-130		11/14/2020 00:07
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-10 (SURF)	2011601-004B	Soil	11/10/2020 09:58	ICP-MS5 202SMPL.d	209287
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic		8.3	0.50	1	11/14/2020 00:10
Lead		11	0.50	1	11/14/2020 00:10
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
Terbium		98	70-130		11/14/2020 00:10
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-17 (SURF)	2011601-005C	Soil	11/10/2020 10:32	ICP-MS5 203SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		<u>Date Analyzed</u>
Arsenic	6.6		0.50 1		11/14/2020 00:14
Lead	8.7		0.50 1		11/14/2020 00:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		11/14/2020 00:14
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-17 (SURF) DUPE	2011601-005D	Soil	11/10/2020 10:32	ICP-MS5 204SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		<u>Date Analyzed</u>
Arsenic	6.7		0.50 1		11/14/2020 00:18
Lead	9.1		0.50 1		11/14/2020 00:18
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	99		70-130		11/14/2020 00:18
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-21 (SURF)	2011601-008B	Soil	11/10/2020 10:43	ICP-MS5 205SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		<u>Date Analyzed</u>
Arsenic	6.3		0.50 1		11/14/2020 00:21
Lead	8.1		0.50 1		11/14/2020 00:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	92		70-130		11/14/2020 00:21
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-25 (SURF)	2011601-009B	Soil	11/10/2020 10:42	ICP-MS5 206SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.3		0.50	1	11/14/2020 00:25
Lead	8.6		0.50	1	11/14/2020 00:25
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	93		70-130		11/14/2020 00:25
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-19 (SURF)	2011601-010B	Soil	11/10/2020 12:09	ICP-MS5 207SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	5.9		0.50	1	11/14/2020 00:28
Lead	6.9		0.50	1	11/14/2020 00:28
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	97		70-130		11/14/2020 00:28
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-6 (2-2.5')	2011601-011B	Soil	11/11/2020 08:44	ICP-MS4 277SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.9		0.50	1	11/16/2020 18:57
Lead	8.5		0.50	1	11/16/2020 18:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	105		70-130		11/16/2020 18:57
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-6 (2-2.5') DUPE	2011601-011C	Soil	11/11/2020 08:44	ICP-MS4 278SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.4		0.50	1	11/16/2020 19:00
Lead	8.7		0.50	1	11/16/2020 19:00
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	103		70-130		11/16/2020 19:00
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-8 (2-2.5')	2011601-012B	Soil	11/10/2020 11:00	ICP-MS5 210SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.6		0.50	1	11/14/2020 00:39
Lead	8.8		0.50	1	11/14/2020 00:39
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	101		70-130		11/14/2020 00:39
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-10 (2-2.5')	2011601-013B	Soil	11/10/2020 10:02	ICP-MS5 214SMPL.d	209287
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	4.7		0.50	1	11/14/2020 00:53
Lead	6.9		0.50	1	11/14/2020 00:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		11/14/2020 00:53
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-17 (2-2.5')	2011601-014B	Soil	11/10/2020 10:35	ICP-MS5 215SMPL.d	209287

Analytes	Result	RL	DF	Date Analyzed
Arsenic	4.6	0.50	1	11/14/2020 00:56
Lead	9.6	0.50	1	11/14/2020 00:56

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	100	70-130	11/14/2020 00:56

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-21 (2-2.5')	2011601-017B	Soil	11/10/2020 10:53	ICP-MS5 216SMPL.d	209287

Analytes	Result	RL	DF	Date Analyzed
Arsenic	5.2	0.50	1	11/14/2020 01:00
Lead	7.6	0.50	1	11/14/2020 01:00

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	99	70-130	11/14/2020 01:00

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-25 (2-2.5')	2011601-018B	Soil	11/10/2020 10:46	ICP-MS5 217SMPL.d	209287

Analytes	Result	RL	DF	Date Analyzed
Arsenic	6.1	0.50	1	11/14/2020 01:03
Lead	6.7	0.50	1	11/14/2020 01:03

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	100	70-130	11/14/2020 01:03

Analyst(s): DB

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
AG-19 (2-2.5')	2011601-019C	Soil	11/10/2020 12:18	ICP-MS5 218SMPL.d	209328
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	4.2		0.50	1	11/14/2020 01:07
Lead	7.5	B	0.50	1	11/14/2020 01:07
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	94		70-130		11/14/2020 01:07
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-1 (WL)	2011601-020A	Soil	11/11/2020 09:02	ICP-MS4 173SMPL.d	209297
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	5.9		0.50	1	11/13/2020 14:38
Lead	13		0.50	1	11/13/2020 14:38
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	90		70-130		11/13/2020 14:38
<u>Analyst(s):</u> WV					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-2 (B)	2011601-021A	Soil	11/11/2020 09:05	ICP-MS5 219SMPL.d	209297
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.0		0.50	1	11/14/2020 01:10
Lead	14		0.50	1	11/14/2020 01:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	94		70-130		11/14/2020 01:10
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-3 (WL)	2011601-022A	Soil	11/11/2020 09:10	ICP-MS5 220SMPL.d	209297
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	10		0.50	1	11/14/2020 01:14
Lead	11		0.50	1	11/14/2020 01:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		11/14/2020 01:14
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-4 (B)	2011601-023A	Soil	11/11/2020 09:13	ICP-MS5 221SMPL.d	209297
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	6.3		0.50	1	11/14/2020 01:17
Lead	12		0.50	1	11/14/2020 01:17
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	99		70-130		11/14/2020 01:17
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-5 (WL)	2011601-024A	Soil	11/11/2020 09:15	ICP-MS5 222SMPL.d	209297
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Arsenic	5.4		0.50	1	11/14/2020 01:21
Lead	10		0.50	1	11/14/2020 01:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	99		70-130		11/14/2020 01:21
<u>Analyst(s):</u> DB					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.
Date Received: 11/12/2020 14:10
Date Prepared: 11/13/2020
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-6 (B)	2011601-025A	Soil	11/11/2020 09:20	ICP-MS5 223SMPL.d	209297

Analytes	Result	RL	DF	Date Analyzed
Arsenic	4.5	0.50	1	11/14/2020 01:24
Lead	11	0.50	1	11/14/2020 01:24

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	94	70-130	11/14/2020 01:24

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ID-7 (B)	2011601-026A	Soil	11/11/2020 09:22	ICP-MS5 227SMPL.d	209297

Analytes	Result	RL	DF	Date Analyzed
Arsenic	4.3	0.50	1	11/14/2020 01:38
Lead	10	0.50	1	11/14/2020 01:38

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	92	70-130	11/14/2020 01:38

Analyst(s): DB



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020
Instrument: GC23
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209298
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209298
 2011601-001AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.000120	0.00100	-	-	-
a-BHC	ND	0.000270	0.00100	-	-	-
b-BHC	ND	0.0000920	0.00100	-	-	-
d-BHC	ND	0.000150	0.00100	-	-	-
g-BHC	ND	0.000140	0.00100	-	-	-
Chlordane (Technical)	ND	0.00250	0.0250	-	-	-
a-Chlordane	ND	0.000120	0.00100	-	-	-
g-Chlordane	ND	0.0000990	0.00100	-	-	-
p,p-DDD	ND	0.000150	0.00100	-	-	-
p,p-DDE	ND	0.000140	0.00100	-	-	-
p,p-DDT	ND	0.000200	0.00100	-	-	-
Dieldrin	ND	0.000120	0.00100	-	-	-
Endosulfan I	ND	0.000130	0.00100	-	-	-
Endosulfan II	ND	0.000130	0.00100	-	-	-
Endosulfan sulfate	ND	0.000130	0.00100	-	-	-
Endrin	ND	0.000100	0.00100	-	-	-
Endrin aldehyde	ND	0.000110	0.00100	-	-	-
Endrin ketone	ND	0.000140	0.00100	-	-	-
Heptachlor	ND	0.000170	0.00100	-	-	-
Heptachlor epoxide	ND	0.000110	0.00100	-	-	-
Hexachlorobenzene	ND	0.000290	0.0100	-	-	-
Hexachlorocyclopentadiene	ND	0.000360	0.0200	-	-	-
Methoxychlor	ND	0.000310	0.00100	-	-	-
Toxaphene	ND	0.0120	0.0500	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.0446			0.05	89	70-130



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020
Instrument: GC23
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209298
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209298
 2011601-001AMS/MSD

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0529	0.0530	0.050	106	106	70-130	0.156	20
a-BHC	0.0536	0.0532	0.050	107	106	70-130	0.722	20
b-BHC	0.0494	0.0493	0.050	99	99	70-130	0.165	20
d-BHC	0.0536	0.0536	0.050	107	107	70-130	0.0824	20
g-BHC	0.0538	0.0535	0.050	108	107	70-130	0.468	20
a-Chlordane	0.0522	0.0523	0.050	104	105	70-130	0.111	20
g-Chlordane	0.0499	0.0501	0.050	100	100	70-130	0.482	20
p,p-DDD	0.0522	0.0536	0.050	104	107	70-130	2.63	20
p,p-DDE	0.0535	0.0533	0.050	107	107	70-130	0.286	20
p,p-DDT	0.0484	0.0497	0.050	97	99	70-130	2.62	20
Dieldrin	0.0564	0.0566	0.050	113	113	70-130	0.348	20
Endosulfan I	0.0508	0.0507	0.050	102	101	70-130	0.151	20
Endosulfan II	0.0468	0.0472	0.050	94	94	70-130	0.728	20
Endosulfan sulfate	0.0523	0.0518	0.050	105	104	70-130	0.952	20
Endrin	0.0506	0.0510	0.050	101	102	70-130	0.793	20
Endrin aldehyde	0.0501	0.0515	0.050	100	103	70-130	2.68	20
Endrin ketone	0.0498	0.0505	0.050	100	101	70-130	1.29	20
Heptachlor	0.0532	0.0528	0.050	106	106	70-130	0.701	30
Heptachlor epoxide	0.0481	0.0480	0.050	96	96	70-130	0.284	20
Hexachlorobenzene	0.0461	0.0457	0.050	92	91	70-130	0.713	20
Hexachlorocyclopentadiene	0.0308	0.0300	0.050	62	60	50-130	2.57	20
Methoxychlor	0.0472	0.0527	0.050	94	105	70-130	11.0	20

Surrogate Recovery

Decachlorobiphenyl	0.0460	0.0483	0.050	92	97	70-130	4.79	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	1	0.0517	0.0514	0.050	ND	103	103	60-130	0.683	20
a-BHC	1	0.0563	0.0554	0.050	ND	113	111	60-130	1.65	20
b-BHC	1	0.0478	0.0475	0.050	ND	92	91	60-130	0.624	20
d-BHC	1	0.0531	0.0529	0.050	ND	106	106	60-130	0.402	20
g-BHC	1	0.0443	0.0432	0.050	ND	89	86	60-130	2.61	20
a-Chlordane	1	0.0500	0.0493	0.050	ND	99	97	60-130	1.48	20
g-Chlordane	1	0.0481	0.0474	0.050	ND	96	95	60-130	1.47	20
p,p-DDD	1	0.0534	0.0528	0.050	ND	105	104	60-130	1.20	20
p,p-DDE	1	0.0522	0.0513	0.050	ND	103	102	60-130	1.77	20

(Cont.)



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020
Instrument: GC23
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209298
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209298
 2011601-001AMS/MSD

QC Summary Report for SW8081A

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
p,p-DDT	1	0.0452	0.0442	0.050	0.001847	87	85	60-130	2.23	20
Dieldrin	1	0.0564	0.0558	0.050	ND	111	110	60-130	1.06	20
Endosulfan I	1	0.0506	0.0502	0.050	ND	100	99	60-130	0.822	20
Endosulfan II	1	0.0467	0.0457	0.050	ND	93	91	60-130	2.28	20
Endosulfan sulfate	1	0.0491	0.0483	0.050	ND	98	97	60-130	1.57	20
Endrin	1	0.0516	0.0512	0.050	ND	103	102	60-130	0.772	20
Endrin aldehyde	1	0.0456	0.0449	0.050	ND	91	90	60-130	1.54	20
Endrin ketone	1	0.0458	0.0450	0.050	ND	92	90	60-130	1.82	20
Heptachlor	1	0.0553	0.0552	0.050	ND	111	110	60-130	0.300	30
Heptachlor epoxide	1	0.0471	0.0469	0.050	ND	94	94	60-130	0.544	20
Hexachlorobenzene	1	0.0469	0.0468	0.050	ND	93	92	60-130	0.356	20
Hexachlorocyclopentadiene	1	0.0312	0.0303	0.050	ND	62	61	50-130	2.93	20
Methoxychlor	1	0.0460	0.0450	0.050	ND	92	90	60-130	2.29	20
Surrogate Recovery										
Decachlorobiphenyl	1	0.0491	0.0460	0.050		98	92	60-130	6.51	20



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020 - 11/17/2020
Instrument: GC20, GC40
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209299
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209299
 2011601-023AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.000120	0.00100	-	-	-
a-BHC	ND	0.000270	0.00100	-	-	-
b-BHC	ND	0.0000920	0.00100	-	-	-
d-BHC	ND	0.000150	0.00100	-	-	-
g-BHC	ND	0.000140	0.00100	-	-	-
Chlordane (Technical)	ND	0.00250	0.0250	-	-	-
a-Chlordane	ND	0.000120	0.00100	-	-	-
g-Chlordane	ND	0.0000990	0.00100	-	-	-
p,p-DDD	ND	0.000150	0.00100	-	-	-
p,p-DDE	ND	0.000140	0.00100	-	-	-
p,p-DDT	ND	0.000200	0.00100	-	-	-
Dieldrin	ND	0.000120	0.00100	-	-	-
Endosulfan I	ND	0.000130	0.00100	-	-	-
Endosulfan II	ND	0.000130	0.00100	-	-	-
Endosulfan sulfate	ND	0.000130	0.00100	-	-	-
Endrin	ND	0.000100	0.00100	-	-	-
Endrin aldehyde	ND	0.000110	0.00100	-	-	-
Endrin ketone	ND	0.000140	0.00100	-	-	-
Heptachlor	ND	0.000170	0.00100	-	-	-
Heptachlor epoxide	ND	0.000110	0.00100	-	-	-
Hexachlorobenzene	ND	0.000290	0.0100	-	-	-
Hexachlorocyclopentadiene	ND	0.000360	0.0200	-	-	-
Methoxychlor	ND	0.000310	0.00100	-	-	-
Toxaphene	ND	0.0120	0.0500	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.0548			0.05	110	70-130



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020 - 11/17/2020
Instrument: GC20, GC40
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209299
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209299
 2011601-023AMS/MSD

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0563	0.0584	0.050	113	117	70-130	3.73	20
a-BHC	0.0516	0.0537	0.050	103	107	70-130	4.03	20
b-BHC	0.0513	0.0533	0.050	103	107	70-130	3.82	20
d-BHC	0.0540	0.0561	0.050	108	112	70-130	3.77	20
g-BHC	0.0511	0.0531	0.050	102	106	70-130	3.88	20
a-Chlordane	0.0536	0.0553	0.050	107	111	70-130	3.13	20
g-Chlordane	0.0515	0.0530	0.050	103	106	70-130	2.83	20
p,p-DDD	0.0575	0.0588	0.050	115	118	70-130	2.29	20
p,p-DDE	0.0543	0.0557	0.050	109	111	70-130	2.56	20
p,p-DDT	0.0380	0.0387	0.050	76	77	70-130	1.70	20
Dieldrin	0.0549	0.0567	0.050	110	113	70-130	3.11	20
Endosulfan I	0.0509	0.0523	0.050	102	105	70-130	2.86	20
Endosulfan II	0.0505	0.0519	0.050	101	104	70-130	2.74	20
Endosulfan sulfate	0.0478	0.0489	0.050	96	98	70-130	2.19	20
Endrin	0.0476	0.0484	0.050	95	97	70-130	1.54	20
Endrin aldehyde	0.0638	0.0656	0.050	128	131,F2	70-130	2.84	20
Endrin ketone	0.0501	0.0514	0.050	100	103	70-130	2.53	20
Heptachlor	0.0542	0.0552	0.050	108	110	70-130	1.90	20
Heptachlor epoxide	0.0521	0.0543	0.050	104	109	70-130	4.09	20
Hexachlorobenzene	0.0498	0.0507	0.050	100	101	70-130	1.69	20
Hexachlorocyclopentadiene	0.0372	0.0378	0.050	74	76	50-130	1.60	20
Methoxychlor	0.0388	0.0392	0.050	78	79	70-130	1.22	20

Surrogate Recovery

Decachlorobiphenyl	0.0537	0.0532	0.050	107	106	70-130	0.934	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	1	0.0377	0.0376	0.050	ND	75	75	60-130	0.103	20
a-BHC	1	0.0399	0.0398	0.050	ND	80	80	60-130	0.102	20
b-BHC	1	0.0404	0.0406	0.050	ND	81	81	60-130	0.337	20
d-BHC	1	0.0389	0.0388	0.050	ND	77	77	60-130	0.0978	20
g-BHC	1	0.0316	0.0315	0.050	ND	63	63	60-130	0.289	20
a-Chlordane	1	0.0370	0.0360	0.050	ND	73	72	60-130	2.62	20
g-Chlordane	1	0.0363	0.0353	0.050	ND	73	71	60-130	2.54	20
p,p-DDD	1	0.0376	0.0375	0.050	ND	74	73	60-130	0.415	20
p,p-DDE	1	0.0407	0.0392	0.050	0.001182	79	76	60-130	3.67	20

(Cont.)



Quality Control Report

Client: Padre Associates. Inc.
Date Prepared: 11/12/2020
Date Analyzed: 11/13/2020 - 11/17/2020
Instrument: GC20, GC40
Matrix: Soil
Project: 1701-2122; TRUSD-Northlake PEA

WorkOrder: 2011601
BatchID: 209299
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-209299
 2011601-023AMS/MSD

QC Summary Report for SW8081A

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
p,p-DDT	1	0.0390	0.0370	0.050	0.001703	75	71	60-130	5.18	20
Dieldrin	1	0.0438	0.0429	0.050	ND	88	86	60-130	2.10	20
Endosulfan I	1	0.0381	0.0374	0.050	ND	76	75	60-130	1.88	20
Endosulfan II	1	0.0356	0.0350	0.050	ND	71	70	60-130	1.75	20
Endosulfan sulfate	1	0.0367	0.0359	0.050	0.002351	69	67	60-130	2.06	20
Endrin	1	0.0408	0.0398	0.050	ND	80	78	60-130	2.33	20
Endrin aldehyde	1	0.0382	0.0372	0.050	ND	76	74	60-130	2.49	20
Endrin ketone	1	0.0316	0.0306	0.050	ND	62	60	60-130	3.01	20
Heptachlor	1	0.0451	0.0452	0.050	ND	90	90	60-130	0.166	20
Heptachlor epoxide	1	0.0358	0.0355	0.050	ND	71	71	60-130	0.938	20
Hexachlorobenzene	1	0.0358	0.0357	0.050	ND	72	71	60-130	0.205	20
Hexachlorocyclopentadiene	1	0.0400	0.0393	0.050	ND	80	79	50-130	1.92	20
Methoxychlor	1	0.0422	0.0421	0.050	ND	84	84	60-130	0.172	20
Surrogate Recovery										
Decachlorobiphenyl	1	0.0336	0.0336	0.050		67	67	60-130	0.0915	20



Quality Control Report

Client:	Padre Associates. Inc.	WorkOrder:	2011601
Date Prepared:	11/13/2020	BatchID:	209234
Date Analyzed:	11/13/2020	Extraction Method:	E200.8
Instrument:	ICP-MS5	Analytical Method:	E200.8
Matrix:	Water	Unit:	µg/L
Project:	1701-2122; TRUSD-Northlake PEA	Sample ID:	MB/LCS/LCSD-209234

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.120	0.500	-	-	-
Lead	ND	0.320	0.500	-	-	-
Surrogate Recovery						
Terbium	545			500	109	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	55.6	53.4	50	111	107	85-115	4.05	20
Lead	54.6	52.7	50	109	105	85-115	3.54	20
Surrogate Recovery								
Terbium	525	530	500	105	106	70-130	1.04	20



Quality Control Report

Client:	Padre Associates. Inc.	WorkOrder:	2011601
Date Prepared:	11/13/2020	BatchID:	209287
Date Analyzed:	11/13/2020	Extraction Method:	SW3050B
Instrument:	ICP-MS4	Analytical Method:	SW6020
Matrix:	Soil	Unit:	mg/kg
Project:	1701-2122; TRUSD-Northlake PEA	Sample ID:	MB/LCS/LCSD-209287

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.150	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Surrogate Recovery						
Terbium	507			500	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	52.5	52.4	50	105	105	75-125	0.250	20
Lead	50.0	51.2	50	100	102	75-125	2.37	20
Surrogate Recovery								
Terbium	498	514	500	100	103	70-130	3.15	20

(Cont.)



Quality Control Report

Client: Padre Associates. Inc.	WorkOrder: 2011601
Date Prepared: 11/13/2020	BatchID: 209297
Date Analyzed: 11/13/2020	Extraction Method: SW3050B
Instrument: ICP-MS4	Analytical Method: SW6020
Matrix: Soil	Unit: mg/kg
Project: 1701-2122; TRUSD-Northlake PEA	Sample ID: MB/LCS/LCSD-209297 2011601-020AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.150	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Surrogate Recovery						
Terbium	459			500	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	49.6	49.1	50	99	98	75-125	1.07	20
Lead	47.7	48.1	50	95	96	75-125	0.787	20
Surrogate Recovery								
Terbium	473	479	500	95	96	70-130	1.33	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Arsenic	1	55.1	53.1	50	5.931	98	94	75-125	3.74	20
Lead	1	60.4	57.4	50	12.95	95	89	75-125	5.07	20
Surrogate Recovery										
Terbium	1	484	468	500		97	94	70-130	3.25	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Arsenic	6.16	5.931	3.86	-
Lead	13.5	12.95	4.25	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

(Cont.)



Quality Control Report

Client: Padre Associates. Inc.	WorkOrder: 2011601
Date Prepared: 11/13/2020	BatchID: 209328
Date Analyzed: 11/13/2020	Extraction Method: SW3050B
Instrument: ICP-MS4	Analytical Method: SW6020
Matrix: Soil	Unit: mg/kg
Project: 1701-2122; TRUSD-Northlake PEA	Sample ID: MB/LCS/LCSD-209328

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.150	0.500	-	-	-
Lead	0.212,J	0.140	0.500	-	-	-
Surrogate Recovery						
Terbium	489			500	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	51.0	55.9	50	102	112	75-125	9.32	20
Lead	50.0	52.4	50	100	105	75-125	4.75	20
Surrogate Recovery								
Terbium	503	520	500	101	104	70-130	3.24	20

1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262



CHAIN-OF-CUSTODY RECORD

WorkOrder: 2011601

ClientCode: PAIS

- WaterTrax
 WriteOn
 EDF
 EQuIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:
Alan J. Klein
Padre Associates. Inc.
350 University Ave., Suite 250
Sacramento, CA 95825
(916) 333-5920 FAX: (916) 333-5921

Email: aklein@padreinc.com
 cc/3rd Party: achurchill@padreinc.com;
 PO:
 Project: 1701-2122; TRUSD-Northlake PEA

Bill to:
Accounts Payable
Padre Associates. Inc.
1861 Knoll Drive
Ventura, CA 93003
ap@padreinc.com; aklein@padreinc.co

Requested TAT: 5 days;

Date Received: 11/12/2020
Date Logged: 11/12/2020

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2011601-001	CS-1	Soil	11/11/2020 08:48	<input type="checkbox"/>	A			A								
2011601-002	AG-6 (SURF)	Soil	11/11/2020 08:13	<input type="checkbox"/>			B									
2011601-002	CS-2	Soil	11/11/2020 07:40	<input type="checkbox"/>	A			A								
2011601-003	AG-8 (SURF)	Soil	11/10/2020 10:55	<input type="checkbox"/>			B									
2011601-003	CS-3	Soil	11/10/2020 10:15	<input type="checkbox"/>	A			A								
2011601-004	AG-10 (SURF)	Soil	11/10/2020 09:47	<input type="checkbox"/>			B									
2011601-004	CS-4	Soil	11/10/2020 09:47	<input type="checkbox"/>	A			A								
2011601-005	AG-17 (SURF)	Soil	11/10/2020 10:32	<input type="checkbox"/>			C									
2011601-005	AG-17 (SURF) DUPE	Soil	11/10/2020 10:32	<input type="checkbox"/>			D									
2011601-005	CS-5	Soil	11/10/2020 10:32	<input type="checkbox"/>	A			A								
2011601-005	CS-5 DUPE	Soil	11/10/2020 10:32	<input type="checkbox"/>	B											
2011601-006	EB#1	Water	11/10/2020 12:30	<input type="checkbox"/>		A		A								
2011601-007	fb#1	Water	11/10/2020 12:24	<input type="checkbox"/>		A		A								
2011601-008	AG-21 (SURF)	Soil	11/10/2020 10:43	<input type="checkbox"/>			B									
2011601-008	CS-6	Soil	11/10/2020 11:52	<input type="checkbox"/>	A			A								

Test Legend:

1	8081_S	2	METALSMS_TTLC_W	3	PBASMS_TTLC_S	4	PRDisposal Fee
5		6		7		8	
9		10		11		12	

Project Manager: Rosa Venegas

Prepared by: Nancy Palacios

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2011601

ClientCode: PAIS

- WaterTrax
 WriteOn
 EDF
 EQuIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:

Alan J. Klein
Padre Associates. Inc.
350 University Ave., Suite 250
Sacramento, CA 95825
(916) 333-5920 FAX: (916) 333-5921

Email: aklein@padreinc.com
cc/3rd Party: achurchill@padreinc.com;
PO:
Project: 1701-2122; TRUSD-Northlake PEA

Bill to:

Accounts Payable
Padre Associates. Inc.
1861 Knoll Drive
Ventura, CA 93003
ap@padreinc.com; aklein@padreinc.co

Requested TAT: 5 days;

Date Received: 11/12/2020

Date Logged: 11/12/2020

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2011601-009	AG-25 (SURF)	Soil	11/10/2020 10:42	<input type="checkbox"/>			B									
2011601-009	CS-7	Soil	11/10/2020 09:58	<input type="checkbox"/>	A			A								
2011601-010	AG-19 (SURF)	Soil	11/10/2020 12:09	<input type="checkbox"/>			B									
2011601-010	CS-8	Soil	11/10/2020 12:07	<input type="checkbox"/>	A			A								
2011601-011	AG-6 (2-2.5')	Soil	11/11/2020 08:44	<input type="checkbox"/>			B									
2011601-011	AG-6 (2-2.5') DUPE	Soil	11/11/2020 08:44	<input type="checkbox"/>			C									
2011601-011	CS-9	Soil	11/11/2020 07:55	<input type="checkbox"/>	A			A								
2011601-012	AG-8 (2-2.5')	Soil	11/10/2020 11:00	<input type="checkbox"/>			B									
2011601-012	CS-10	Soil	11/10/2020 10:19	<input type="checkbox"/>	A			A								
2011601-013	AG-10 (2-2.5')	Soil	11/10/2020 10:02	<input type="checkbox"/>			B									
2011601-013	CS-11	Soil	11/10/2020 09:51	<input type="checkbox"/>	A			A								
2011601-014	AG-17 (2-2.5')	Soil	11/10/2020 10:35	<input type="checkbox"/>			B									
2011601-014	CS-12	Soil	11/10/2020 10:35	<input type="checkbox"/>	A			A								
2011601-015	EB#2	Water	11/11/2020 09:10	<input type="checkbox"/>		A		A								
2011601-016	FB#2	Water	11/11/2020 09:00	<input type="checkbox"/>		A		A								

Test Legend:

1	8081_S	2	METALSMS_TTLC_W	3	PBASMS_TTLC_S	4	PRDisposal Fee
5		6		7		8	
9		10		11		12	

Project Manager: Rosa Venegas

Prepared by: Nancy Palacios

Comments:

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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262



CHAIN-OF-CUSTODY RECORD

WorkOrder: 2011601

ClientCode: PAIS

- WaterTrax
 WriteOn
 EDF
 EQUIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:

Alan J. Klein
Padre Associates. Inc.
350 University Ave., Suite 250
Sacramento, CA 95825
(916) 333-5920 FAX: (916) 333-5921

Email: aklein@padreinc.com
cc/3rd Party: achurchill@padreinc.com;
PO:
Project: 1701-2122; TRUSD-Northlake PEA

Bill to:

Accounts Payable
Padre Associates. Inc.
1861 Knoll Drive
Ventura, CA 93003
ap@padreinc.com; aklein@padreinc.co

Requested TAT: 5 days;

Date Received: 11/12/2020

Date Logged: 11/12/2020

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2011601-017	AG-21 (2-2.5')	Soil	11/10/2020 10:53	<input type="checkbox"/>			B									
2011601-017	CS-13	Soil	11/10/2020 11:55	<input type="checkbox"/>	A			A								
2011601-018	AG-25 (2-2.5')	Soil	11/10/2020 10:46	<input type="checkbox"/>			B									
2011601-018	CS-14	Soil	11/10/2020 10:03	<input type="checkbox"/>	A			A								
2011601-019	AG-19 (2-2.5')	Soil	11/10/2020 12:18	<input type="checkbox"/>			C									
2011601-019	CS-15	Soil	11/10/2020 12:12	<input type="checkbox"/>	A			A								
2011601-019	CS-15 DUPE	Soil	11/10/2020 12:12	<input type="checkbox"/>	B											
2011601-020	ID-1 (WL)	Soil	11/11/2020 09:02	<input type="checkbox"/>	A		A	A								
2011601-021	ID-2 (B)	Soil	11/11/2020 09:05	<input type="checkbox"/>	A		A	A								
2011601-022	ID-3 (WL)	Soil	11/11/2020 09:10	<input type="checkbox"/>	A		A	A								
2011601-023	ID-4 (B)	Soil	11/11/2020 09:13	<input type="checkbox"/>	A		A	A								
2011601-024	ID-5 (WL)	Soil	11/11/2020 09:15	<input type="checkbox"/>	A		A	A								
2011601-025	ID-6 (B)	Soil	11/11/2020 09:20	<input type="checkbox"/>	A		A	A								
2011601-026	ID-7 (B)	Soil	11/11/2020 09:22	<input type="checkbox"/>	A		A	A								

Test Legend:

1	8081_S	2	METALSMS_TTLC_W	3	PBASMS_TTLC_S	4	PRDisposal Fee
5		6		7		8	
9		10		11		12	

Project Manager: Rosa Venegas

Prepared by: Nancy Palacios

Comments:

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WORK ORDER SUMMARY

Client Name: PADRE ASSOCIATES. INC.

Project: 1701-2122; TRUSD-Northlake PEA

Work Order: 2011601

Client Contact: Alan J. Klein

QC Level: LEVEL 2

Contact's Email: aklein@padreinc.com

Comments:

Date Logged: 11/12/2020

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2011601-001A	CS-1	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 8:48	5 days		<input type="checkbox"/>	
2011601-002A	CS-2	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 7:40	5 days		<input type="checkbox"/>	
2011601-002B	AG-6 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 8:13	5 days		<input type="checkbox"/>	
2011601-003A	CS-3	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:15	5 days		<input type="checkbox"/>	
2011601-003B	AG-8 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:55	5 days		<input type="checkbox"/>	
2011601-004A	CS-4	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 9:47	5 days		<input type="checkbox"/>	
2011601-004B	AG-10 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 9:47	5 days		<input type="checkbox"/>	
2011601-005A	CS-5	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:32	5 days		<input type="checkbox"/>	
2011601-005B	CS-5 DUPE	Soil	SW8081A (OC Pesticides)	4 / (4:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:32	5 days		<input type="checkbox"/>	
2011601-005C	AG-17 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:32	5 days		<input type="checkbox"/>	
2011601-005D	AG-17 (SURF) DUPE	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:32	5 days		<input type="checkbox"/>	
2011601-006A	EB#1	Water	E200.8 (Metals) <Arsenic, Lead>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	11/10/2020 12:30	5 days	None	<input type="checkbox"/>	
2011601-007A	fb#1	Water	E200.8 (Metals) <Arsenic, Lead>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	11/10/2020 12:24	5 days		<input type="checkbox"/>	
2011601-008A	CS-6	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 11:52	5 days		<input type="checkbox"/>	
2011601-008B	AG-21 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:43	5 days		<input type="checkbox"/>	
2011601-009A	CS-7	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 9:58	5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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WORK ORDER SUMMARY

Client Name: PADRE ASSOCIATES. INC.

Project: 1701-2122; TRUSD-Northlake PEA

Work Order: 2011601

Client Contact: Alan J. Klein

QC Level: LEVEL 2

Contact's Email: aklein@padreinc.com

Comments:

Date Logged: 11/12/2020

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2011601-009B	AG-25 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:42	5 days		<input type="checkbox"/>	
2011601-010A	CS-8	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 12:07	5 days		<input type="checkbox"/>	
2011601-010B	AG-19 (SURF)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 12:09	5 days		<input type="checkbox"/>	
2011601-011A	CS-9	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 7:55	5 days		<input type="checkbox"/>	
2011601-011B	AG-6 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 8:44	5 days		<input type="checkbox"/>	
2011601-011C	AG-6 (2-2.5') DUPE	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 8:44	5 days		<input type="checkbox"/>	
2011601-012A	CS-10	Soil	SW8081A (OC Pesticides)	4 / (4:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:19	5 days		<input type="checkbox"/>	
2011601-012B	AG-8 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 11:00	5 days		<input type="checkbox"/>	
2011601-013A	CS-11	Soil	SW8081A (OC Pesticides)	4 / (4:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 9:51	5 days		<input type="checkbox"/>	
2011601-013B	AG-10 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:02	5 days		<input type="checkbox"/>	
2011601-014A	CS-12	Soil	SW8081A (OC Pesticides)	4 / (4:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:35	5 days		<input type="checkbox"/>	
2011601-014B	AG-17 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:35	5 days		<input type="checkbox"/>	
2011601-015A	EB#2	Water	E200.8 (Metals) <Arsenic, Lead>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	11/11/2020 9:10	5 days	None	<input type="checkbox"/>	
2011601-016A	FB#2	Water	E200.8 (Metals) <Arsenic, Lead>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	11/11/2020 9:00	5 days	None	<input type="checkbox"/>	
2011601-017A	CS-13	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 11:55	5 days		<input type="checkbox"/>	
2011601-017B	AG-21 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:53	5 days		<input type="checkbox"/>	

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WORK ORDER SUMMARY

Client Name: PADRE ASSOCIATES. INC.

Project: 1701-2122; TRUSD-Northlake PEA

Work Order: 2011601

Client Contact: Alan J. Klein

QC Level: LEVEL 2

Contact's Email: aklein@padreinc.com

Comments:

Date Logged: 11/12/2020

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2011601-018A	CS-14	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:03	5 days		<input type="checkbox"/>	
2011601-018B	AG-25 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 10:46	5 days		<input type="checkbox"/>	
2011601-019A	CS-15	Soil	SW8081A (OC Pesticides)	3 / (3:1)	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 12:12	5 days		<input type="checkbox"/>	
2011601-019B	CS-15 DUPE	Soil	SW8081A (OC Pesticides)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 12:12	5 days		<input type="checkbox"/>	
2011601-019C	AG-19 (2-2.5')	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/10/2020 12:18	5 days		<input type="checkbox"/>	
2011601-020A	ID-1 (WL)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:02	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
2011601-021A	ID-2 (B)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:05	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
2011601-022A	ID-3 (WL)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:10	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
2011601-023A	ID-4 (B)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:13	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
2011601-024A	ID-5 (WL)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:15	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
2011601-025A	ID-6 (B)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:20	5 days		<input type="checkbox"/>	

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Project: 1701-2122; TRUSD-Northlake PEA

Work Order: 2011601

Client Contact: Alan J. Klein

QC Level: LEVEL 2

Contact's Email: aklein@padreinc.com

Comments:

Date Logged: 11/12/2020

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2011601-025A	ID-6 (B)	Soil	SW8081A (OC Pesticides)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:20	5 days		<input type="checkbox"/>	
2011601-026A	ID-7 (B)	Soil	SW6020 (Arsenic & Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	11/11/2020 9:22	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

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McCAMPBELL ANALYTICAL, INC.
 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
 Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD										
Turn Around Time: 1 Day Rush			2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●			Cleanup Approved		Dry Weight		Bottle Order #
Delivery Format: PDF		●		GeoTracker EDF		EDD	Write On (DW)		Detect Summary	

Report To: Alan Klein Bill To:
 Company: Padre Associates Inc. - Sacramento, CA
 Email: aklein@padreinc.com
 Alt Email: achurchill@padreinc.com Tele: 916-333-5920
 Project Name: TRUSD - Northlake PEA Project #: 1701-2122
 Project Location: Sacramento, CA PO #
 Sampler Signature: *Alan Klein*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	Arsenic (6020)	Lead (6020)	OCPs (8081A)										
	Date	Time																
AG-1 (SURF)	11-10-20	0908	1	S	1			●										
AG-2 (SURF)	11-10-20	0918	1	S	1			●	} COMP 3:1 CS-1									
AG-3 (SURF)	11-11-20	0848	1	S	1			●										
AG-6 (SURF)	11-11-20	0813	1	S	1	●	●	●	} COMP 3:1 CS-2									
AG-7 (SURF)	11-11-20	0802	1	S	1			●										
AG-11 (SURF)	11-11-20	0740	1	S	1			●	} COMP 4:1 CS-3									
AG-4 (SURF)	11-10-20	1054	1	S	1			●										
AG-5 (SURF)	11-10-20	1015	1	S	1			●										
AG-8 (SURF)	11-10-20	1055	1	S	1	●	●	●										
AG-9 (SURF)	11-10-20	1015	1	S	1			●										

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.						Comments / Instructions										
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.						comp analysis OCPs. discrete analysis As, Pb. notify if cleanup required for OCPs.										
Relinquished By / Company Name			Date	Time	Received By / Company Name							Date	Time			
<i>Alan Klein / PADRE</i>			<i>11-12-20</i>	<i>0930</i>	<i>DPB</i>							<i>11/12/20</i>	<i>930</i>			
<i>PTJ</i>			<i>11/22/20</i>	<i>1410</i>	<i>Nancy Palacios</i>	<i>11/12/20</i>	<i>1410</i>									

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____
2.1 Wet.



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www.mccampbell.com main@mccampbell.com

Turn Around Time: 1 Day Rush		2 Day Rush	3 Day Rush	STD	Quote #
J-Flag / MDL	ESL	Cleanup Approved	Dry Weight	Bottle Order #	
Delivery Format: PDF	GeoTracker EDF	EDD	Write On (DW)	Detect Summary	

Report To: Alan Klein Bill To:
 Company: Padre Associates Inc. - Sacramento, CA
 Email: aklein@padreinc.com
 Alt Email: achurchill@padreinc.com Tele: 916-333-5920
 Project Name: TRUSD - Northlake PEA Project #: 1701-2122
 Project Location: Sacramento, CA PO #
 Sampler Signature: *AK*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	Arsenic (200.8)	Lead (200.8)	Arsenic (6020)	Lead (6020)	OCPs (8081A)							split/run dupe OCPs CS-5	split/run dupe As, Pb
	Date	Time																
AG-10 (SURF)	11-10-20	0958	1	S	1			●	●	●								
AG-14 (SURF)	11-10-20	0939	1	S	1					●								
AG-15 (SURF)	11-10-20	0935	1	S	1					●								
AG-18 (SURF)	11-10-20	0947	1	S	1					●								
AG-12 (SURF)	11-10-20	1105	1	S	1					●							●	
AG-13 (SURF)	11-10-20	1032	1	S	1					●							●	
AG-16 (SURF)	11-10-20	1110	1	S	1					●							●	
AG-17 (SURF)	11-10-20	1032	1	S	1			●	●	●							●	●
EB#1	11-10-20	1230	1	W	1,4	●	●											
FB#1	11-10-20	1224	1	W	1,4	●	●											

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Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.							comp analysis OCPs. discrete analysis As, Pb.	
Relinquished By / Company Name			Date	Time	Received By / Company Name		Date	Time
<i>AK</i> / PADRE			11-20	0930	PTJ		11/20	930
<i>PTJ</i>			11/20	1410	Nancy Palacios		11/20	1410
							notify if cleanup required for OCPs.	

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None Temp _____ °C Initials _____

** confirmed w/client
 RUN split/RUN dupe as comp.*
 Page 2 of 7
 Page 56 of 62



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J-Flag / MDL	ESL	●	Cleanup Approved	Dry Weight	Bottle Order #	
Delivery Format: PDF	●	GeoTracker EDF	EDD	Write On (DW)	Detect Summary	

Report To: Alan Klein Bill To:
 Company: Padre Associates Inc. - Sacramento, CA
 Email: aklein@padreinc.com
 Alt Email: achurchill@padreinc.com Tele: 916-333-5920
 Project Name: TRUSD - Northlake PEA Project #: 1701-2122
 Project Location: Sacramento, CA PO #
 Sampler Signature: *[Signature]*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	Arsenic (6020)	Lead (6020)	OCPs (8081A)										
	Date	Time																
AG-20 (SURF)	11-10-20	1140	1	S	1			●										
AG-21 (SURF)	11-10-20	1043	1	S	1	●	●	●	} COMP 3:1									
AG-24 (SURF)	11-10-20	1152	1	S	1			●	} CS-6									
AG-22 (SURF)	11-10-20	0948	1	S	1			●										
AG-25 (SURF)	11-10-20	1042	1	S	1	●	●	●	} COMP 3:1									
AG-26 (SURF)	11-10-20	0958	1	S	1			●	} CS-7									
AG-19 (SURF)	11-10-20	1209	1	S	1	●	●	●										
AG-23 (SURF)	11-10-20	1221	1	S	1			●	} COMP 3:1									
AG-27 (SURF)	11-10-20	1207	1	S	1			●	} CS-8									

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Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
<i>[Signature]</i> / PADRE	11-12-20	0930	PT	11/20	930
PD	11/22/20	1410	NANNY PADRE	11/22/20	1410

Comments / Instructions
 comp analysis OCPs.
 discrete analysis As, Pb.
 notify if cleanup required for OCPs.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None
 Temp _____ °C Initials _____



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Turn Around Time: 1 Day Rush				2 Day Rush	3 Day Rush	STD	●	Quote #
J-Flag / MDL	ESL	●	Cleanup Approved	Dry Weight	Bottle Order #			
Delivery Format: PDF	●	GeoTracker EDF	EDD	Write On (DW)	Detect Summary			

Report To: Alan Klein Bill To:
 Company: Padre Associates Inc. - Sacramento, CA
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 Alt Email: achurchill@padreinc.com Tele: 916-333-5920
 Project Name: TRUSD - Northlake PEA Project #: 1701-2122
 Project Location: Sacramento, CA PO #
 Sampler Signature: *AK*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	Arsenic (6020)	Lead (6020)	OCPs (8081A)	Split/run dupe As and Pb
	Date	Time							
AG-6 (2-2.5')	11-11-20	0844	1	S	1	●	●	●	●
AG-7 (2-2.5')	11-11-20	0806	1	S	1				
AG-11 (2-2.5')	11-11-20	0755	1	S	1				
AG-4 (2-2.5')	11-10-20	1057	1	S	1				
AG-5 (2-2.5')	11-10-20	1018	1	S	1				
AG-8 (2-2.5')	11-10-20	1100	1	S	1	●	●	●	
AG-9 (2-2.5')	11-10-20	1019	1	S	1			●	

Handwritten notes:
 } COMP 3:1 CS-9 (next to AG-7, AG-11)
 } COMP 4:1 CS-10 (next to AG-4, AG-5, AG-8, AG-9)

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Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
<i>AK CL / PADRE</i>	11-12-20	0920	<i>NS</i>	11/20	930
<i>AK</i>	11/20	1410	<i>Nancy Palawski</i>	11/20	1410

Comments / Instructions
 comp analysis OCPs.
 discrete analysis As, Pb.
 notify if cleanup required for OCPs.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
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J-Flag / MDL	ESL	●	Cleanup Approved	Dry Weight	Bottle Order #			
Delivery Format: PDF	●	GeoTracker EDF	EDD	Write On (DW)	Detect Summary			

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 Project Name: TRUSD - Northlake PEA Project #: 1701-2122
 Project Location: Sacramento, CA PO #
 Sampler Signature: *[Signature]*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	Arsenic (200.8)	Lead (200.8)	Arsenic (6020)	Lead (6020)	OCPs (8081A)										
	Date	Time																		
AG-10 (2-2.5')	11-10-20	1002	1	S	1			●	●	●										
AG-14 (2-2.5')	11-10-20	0942	1	S	1					●										
AG-15 (2-2.5')	11-10-20	0942	1	S	1					●										
AG-18 (2-2.5')	11-10-20	0951	1	S	1					●	} COMP 4:1 CS-11									
AG-12 (2-2.5')	11-10-20	1111	1	S	1					●										
AG-13 (2-2.5')	11-10-20	1037	1	S	1					●	} COMP 4:1 CS-12									
AG-16 (2-2.5')	11-10-20	1142	1	S	1					●										
AG-17 (2-2.5')	11-10-20	1035	1	S	1			●	●	●										
EB#2	11-11-20	0910	1	W	1,4	●	●													
FB#2	11-11-20	0900	1	W	1,4	●	●													

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Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
<i>[Signature]</i> / PADRE	11-12-20	0930	<i>[Signature]</i>	11/12/20	9:30
<i>[Signature]</i>	11/22/20	1410	Nancy Palacios	11/12/20	1410

Comments / Instructions
 comp analysis OCPs.
 discrete analysis As, Pb.
 notify if cleanup required for OCPs.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None Temp _____ °C Initials _____



Sample Receipt Checklist

Client Name: **Padre Associates. Inc.**
 Project: **1701-2122; TRUSD-Northlake PEA**
 WorkOrder No: **2011601** Matrix: Soil/Water
 Carrier: Patrick Johnson (MAI Courier)

Date and Time Received: **11/12/2020 14:10**
 Date Logged: **11/12/2020**
 Received by: Nancy Palacios
 Logged by: Nancy Palacios

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
COC agrees with Quote?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

Sample/Temp Blank temperature	Temp: 2.1°C	NA <input type="checkbox"/>	
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

UCMR Samples:

pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Comments:

**APPENDIX D
LEADSPREAD SPREADSHEET
AND
ARSENIC BACKGROUND DATA SET**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	14.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.1	0.2	0.2	0.3	0.3	77
BLOOD Pb, PICA CHILD	0.2	0.4	0.4	0.5	0.6	39

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	0.00	1%		0.00	0%
Soil Ingestion	7.0E-3	0.10	99%	1.4E-2	0.20	100%
Inhalation	2.0E-6	0.00	0%		0.00	0%

[Click here for REFERENCES](#)

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

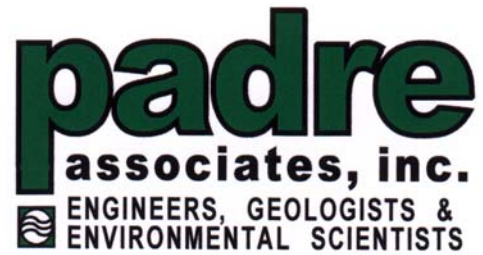
EDIT RED CELL

Variable	Description of Variable	Units	
PbS	Soil lead concentration	ug/g or ppm	14
$R_{\text{fetal/maternal}}$	260	--	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	ug/dL	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	250
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.0
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.0
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0%

PRG90

318

[Click here for REFERENCES](#)



**PRELIMINARY ENDANGERMENT ASSESSMENT
PROPOSED TERRACE PARK ELEMENTARY SCHOOL
LOCATED AT THE INTERSECTION OF TRES PIEZAS WAY
AND GREG THATCH CIRCLE
SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA
(Site Code: 104588-11)**

Prepared for:
RIO LINDA UNION SCHOOL DISTRICT

OCTOBER 2007

**Table 6-2. Results of Metals Analyses
 (results in milligrams per kilogram (mg/kg))**

Sample Identification	Matrix	Constituent
		Arsenic ^{a,b}
SS-4 (0.5')	Soil	3.3
SS-7 (0.5')	Soil	3.2
SS-10 (0.5')	Soil	3.3
SS-13 (0.5')	Soil	3.6
SS-13 (0.5') DUP	Soil	3.4
SS-17 (0.5')	Soil	3.4
SS-20 (0.5')	Soil	2.9
SS-26 (0.5')	Soil	3.3
ID-1 (1.5')	Soil	2.9
ID-2 (2.5')	Soil	3.0
ID-3 (2.5')	Soil	3.4
ID-4 (1.5')	Soil	2.7
BKRND-N ^a	Soil	3.6
BKRND-S ^a	Soil	9.9
BKRND-E ^a	Soil	2.6
BKRND-W ^a	Soil	8.7
FB #1	Water	<2.0 ^b
EB #1	Water	<2.0 ^b
FB #2	Water	<2.0 ^b
EB #2	Water	<2.0 ^b

Notes:

- a - analytical results from 2003 PEA performed at nearby school site
- b - water concentrations reported in micrograms per liter