

**PRELIMINARY ENVIRONMENTAL ASSESSMENT
SEDGWICK ELEMENTARY SCHOOL
EXPANSION PROJECT
10480 FINCH AVENUE
CUPERTINO, SANTA CLARA COUNTY, CALIFORNIA**

Prepared for:
CUPERTINO UNION SCHOOL DISTRICT

September 2015



ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

September 28, 2015
Project Number: 1401-2171

California Department of Toxic Substances Control
School Property Evaluation and Cleanup Division
8800 Cal Center Drive
Sacramento, California 95826-3200

Attention: Mr. Jose Luevano, Project Manager

Subject: **Final** Preliminary Environmental Assessment, Sedgwick Elementary School Expansion Project, 10480 Finch Avenue, Cupertino, Santa Clara County, California (Site Code 204271)

Dear Mr. Luevano:

Padre Associates, Inc. (Padre), on behalf of the Cupertino Union School District (District), has prepared this Final Preliminary Environmental Assessment (PEA) report for the Sedgwick Elementary School Expansion Project located at 10480 Finch Avenue in Cupertino, Santa Clara County, California.

The PEA has been conducted in accordance with the Padre document titled, *Preliminary Environmental Assessment Work Plan, Sedgwick Elementary School Expansion Project, 10480 Finch Avenue, Cupertino, Santa Clara County, California*, dated May 2015. The PEA Work Plan received approval by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control in a letter to the District dated June 4, 2015.

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, Ext. 24.

Sincerely,
PADRE ASSOCIATES, INC.

A blue ink signature of Alan Churchill, consisting of stylized initials.

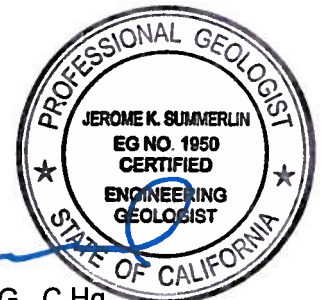
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Senior Environmental Scientist

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Jerome K. Summerlin, C.E.G., C.Hg.
Principal



CC: Mary Ann Duggan, P.E., Director – Facility Modernization, Cupertino Union SD
Jerry Suich, President, Oxbridge Development, Inc.

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EXECUTIVE SUMMARY

Padre Associates, Inc. (Padre), on behalf of the Cupertino Union School District (District), has prepared this Preliminary Environmental Assessment (PEA) report for the Sedgwick Elementary School Expansion Project located at 10480 Finch Avenue in Cupertino, Santa Clara County, California (Project Site).

The Project Site consists of 1.48 acres of residential use property, and is located adjacent to the northwest corner of the Sedgwick Elementary School property. According to Padre's review of available historical aerial photographs, the Project Site was planted as an orchard from at least 1939 through the late 1950s. The existing residential building is present in a 1956 aerial photograph.

The Project Site is bordered to the north by Phil Lane, beyond which is residential property; to the east and south by Sedgwick Elementary School; to the west by residential property; and to the northwest by Finch Avenue, beyond which is residential property.

The PEA was conducted in accordance with the Padre document titled *Preliminary Environmental Assessment Work Plan, Sedgwick Elementary School Expansion Project, 10480 Finch Avenue, Cupertino, Santa Clara County, California*, dated May 2015. The PEA Work Plan was conditionally approved by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) in a letter to District dated June 4, 2015. 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, which 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:

- Organochlorine pesticides (OCPs) and arsenic in soil from historic agricultural use;
- Lead in soil from weathering of lead-based paint used on historic on-site building structures; and termiticides in soil from historic on-site building structures with wood components;
- Polychlorinated biphenyls (PCBs) in soil from the weathering of window caulking used in historic building structures; and
- Petroleum hydrocarbons and volatile organic compounds (VOCs) in soil and soil gas from a former 500-gallon gasoline underground storage tank (UST).

The results of the PEA screening level risk assessment estimated the total risk from COPCs identified in soils at the Project Site to be 3.2×10^{-5} , which provides an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from COPCs identified in soils at the Project Site is estimated to be 0.46, which does not provide an increased health

hazard (i.e., >1). Therefore, a response action to reduce and/or eliminate the COPCs identified in surficial soils at the Project Site is recommended.

Lead concentrations ranged from 9.0 to 310 milligrams (mg/kg) in soil samples collected throughout the Project Site. Using DTSC's lead risk assessment spreadsheet model (LeadSpread Version 8), exposure to the lead concentrations identified at the Project Site would result in a 90th percentile blood lead concentration of 8.0 micrograms per deciliter (µg/dl) in children, which exceeds the Office of Environmental Health Hazard Assessment (OEHHA) blood toxicity level of 1 µg/dl. Therefore, a response action to reduce or eliminate lead-impacted soil is recommended.

Arsenic concentrations ranged from 5.2 to 15 mg/kg in soil samples collected from across the Project Site. The arsenic data set consisted of four soil samples collected as part of the PEA, and 16 soil samples previously collected as part of a preliminary soil evaluation completed by others (Cornerstone, 2014). The four PEA soil samples were collected as step-out and step-down samples at the location of soil sample SS-6, which reported the highest Project Site arsenic concentration at 15 mg/kg. Arsenic concentrations reported for the PEA soil samples ranged from 5.7 to 13 mg/kg, indicating that arsenic concentrations in soil at this location do not present a potential "hotspot" for arsenic in soil. A statistical evaluation was performed by calculating the 95% Upper Confidence Limit (UCL) for the arsenic data set. The 95% UCL for arsenic in soil at the Project Site was calculated to be 10 mg/kg. A graphical evaluation completed by creating a normal probability plot of the arsenic data set. The shape of the plotted data presents a relatively normal distribution. Therefore, arsenic concentrations identified in surface soil at the Project Site are representative of ambient concentrations and further assessment and/or remedial action for arsenic in soil is not warranted.

Results of the soil gas assessment conducted at the Project Site identified low level concentrations of VOCs; however, none of the of the VOCs exceeded their respective human health screening levels. The results of the PEA screening level risk assessment for soil gas estimated the total risk to be 8.6×10^{-9} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The cumulative hazard was estimated to be 0.0003, which does not provide a significant health hazard (>1). Therefore, further assessment and/or remediation regarding VOCs identified in soil gas at the Project Site is not warranted.

Due to elevated concentrations of OCPs and lead identified in surface soil around existing structures at the Project Site, Padre recommends a response action to reduce or eliminate the potential impact of these contaminants. The recommended remedial action is excavation, removal, and offsite disposal at an appropriate landfill. Prior to the response action, Padre recommends conducting a Supplemental Site Investigation (SSI) to further define chlordane and lead impacts around the structures.

1.0 INTRODUCTION

This document presents the results of the Preliminary Environmental Assessment (PEA), which was completed by Padre Associates, Inc. (Padre) on behalf of the Cupertino Union School District (District), for the Sedgewick Elementary School Expansion Project located at 10480 Finch Avenue, Cupertino, Santa Clara County, California (Project Site). The Project Site is identified on **Plate 1-1: Site Location** and **Plate 1-2: Site Plan**.

The Project Site consists of 1.48 acres of residential property located adjacent to the northwest corner of the existing Sedgewick Elementary School. The expansion project will not result in an addition of classrooms or students to the existing elementary school. Public water and sewer will be provided to the Project Site by the San Jose Water Company and the Sunnyvale Sanitation District, respectively.

The PEA was conducted in accordance with the Padre document titled *Preliminary Environmental Assessment Work Plan, Sedgewick Elementary School Expansion Project, 10480 Finch Avenue, Cupertino, Santa Clara County, California*, dated May 2015. The PEA Work Plan was conditionally approved by the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) in a letter to District dated June 4, 2015. 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). A copy of the DTSC approval letter is included in **Appendix 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 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 (Interim Final – Revised October 2013). 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:

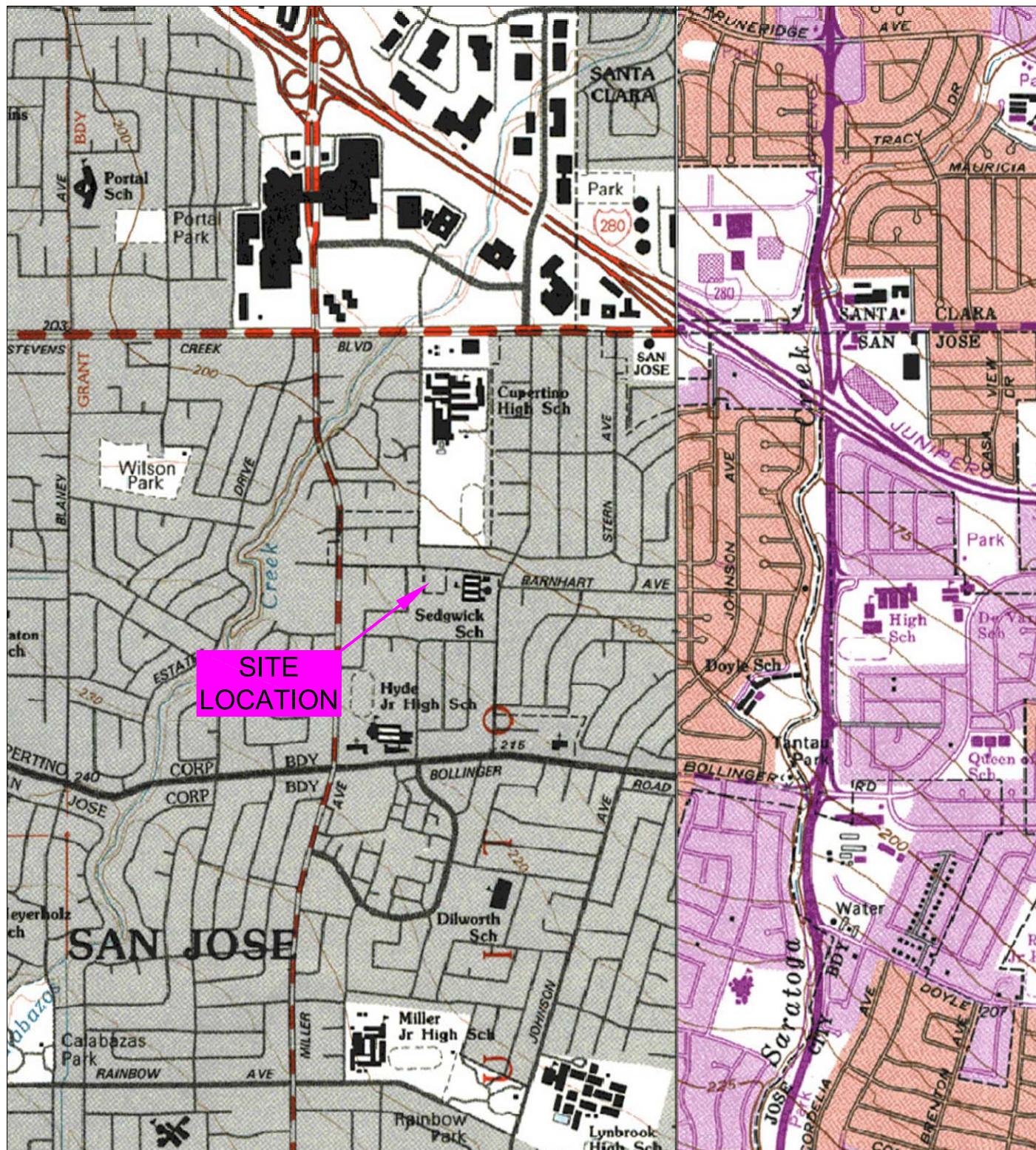
- Evaluating historical information for indications of past use, storage, disposal, and/or release of hazardous substances at the Project Site;
- Establishing through a field sampling and laboratory analysis program, the nature,

concentration, and general extent of hazardous substances that may be present in soil and/or groundwater at the Project Site; and

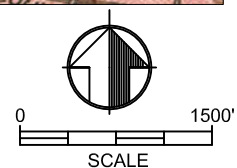
- Estimating the potential threat to public health and the environment presented by hazardous constituents identified at the property, and providing an indicator of relative risk using a residential land-use scenario.

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 (Interim Final – Revised October 2013), 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.



U.S.G.S. 7.5 MINUTE QUADRANGLE
CUPERTINO, CALIFORNIA 1991



padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

SEDGWICK ELEMENTARY SCHOOL EXPANSION
10480 FINCH AVENUE
CUPERTINO, SANTA CLARA COUNTY, CALIFORNIA

PROJECT NO. 1401-2171	DATE 5/28/15	DR. BY AC	APP. BY AJK
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PLATE 1-1
SITE LOCATION



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SEDGWICK ELEMENTARY SCHOOL EXPANSION
10480 FINCH AVENUE
CUPERTINO, SANTA CLARA COUNTY, CALIFORNIA

PROJECT NO. 1401-2171	DATE 5/28/15	DR. BY AC	APP. BY AJK
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PLATE 1-2

SITE PLAN

2.0 PROPERTY DESCRIPTION AND CONTACTS

2.1 SITE ADDRESS / ASSESSOR'S PARCEL NUMBER

The Project Site consists of approximately 1.48 acres of residential property located at 10480 Finch Avenue in Cupertino, Santa Clara County, California. The County of Santa Clara identifies the Project Site as Assessor's Parcel Number (APN): 375-40-067. A copy of the APN map was presented in the PEA Work Plan.

2.2 DESIGNATED CONTACT PERSON AND MAILING ADDRESS

Mary Ann Duggan, P.E., Director – Facility Modernization
Cupertino Union School District
10301 Vista Drive,
Cupertino, CA 94014
Phone No. (408) 252-3000
Duggan_maryann@csdk8.org

2.3 PROPERTY USE

The Project Site consists of 1.48-acres of residential use property, and is located adjacent to the northwest corner of the Sedgwick Elementary School property. According to a review of available historical aerial photographs, the Project Site was planted as an orchard from at least 1939 through the late 1950s. The existing residential building is present in a 1956 aerial photograph.

2.4 ENVIROSTOR DATABASE NUMBER

The EnviroStor database number for the Project Site is 60002143.

2.5 TOWNSHIP, RANGE, AND SECTION

The Project Site is located in Section 19, Township 7 South, Range 1 West, of the Cupertino Quadrangle, California USGS 7½-Minute Series, Topographic Map (1991). Approximate latitude and longitude of the central area of the property are identified to be:

- Latitude (North) 37° 18' 56.5194" (37.3157)
- Longitude (West) -122° 0' 35.2794" (-122.0098)

2.6 SITE MAPS

A Site Location Map is included as Plate 1-1, and a Site Plan is included as Plate 1-2.

2.7 PHYSICAL SETTING

Based on a review of the USGS 7.5-minute series topographic map Cupertino Quadrangle, California, 1991 (photorevised 1982), the Project Site lies at an approximate

elevation of 205 feet above mean sea level (msl) near the center of the Project Site. The overall topographic gradient for the surrounding area is to the northeast. The Project Site is relatively flat with storm water runoff directed northerly towards storm drains located in the adjacent street.

Calabazas Creek is located approximately 1,600-feet northwest of the Project Site and flows in a northeasterly direction. Saratoga Creek is located approximately 0.75 miles west of the Project Site and flows in a northerly direction.

The Project Site is located within the Coast Ranges Geomorphic Province of California. The Coast Ranges stretch approximately 600 miles from the Oregon border to the Santa Ynez River and fall into two sub-provinces: the ranges north of San Francisco Bay and those from the bay south to Santa Barbara County. The northern ranges lie east of the San Andreas Fault zone, whereas most of the southern ranges are to the west. The province contains many elongate ranges and narrow valleys that are approximately parallel to the coast, although the coast usually shows a somewhat more northerly trend than do the ridges and valleys. Therefore, some valleys intersect the shore at acute angles and some mountains terminate abruptly at the sea. The northern Coast Ranges are higher than the southern where Solomon Peak located in Trinity County rises to an elevation of 7,581 feet, the highest point in the Coast Ranges (Norris and Webb, 1990).

According to the United States Department of Agriculture, National Resources Conservation Service, Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>), two soil types are identified for the Project Site. Soils located within the southeast half of the Project Site consist of Urban Land-Stevens Creek Complex located on 0 to 2 percent slopes. Native soils consist of sandy loam, silt loam, and silty clay loam. Soils in the northwest half of the Project Site consist of Urban Land-El Palo Alto Complex located on 0 to 2 percent slopes. Native soils consist of clay loam and silty clay loam. Both of these soils are well drained and runoff is slow.

A review of the State Water Resources Control Board's GeoTracker website (<http://geotracker.waterboards.ca.gov>), identified groundwater assessment activities that were conducted for a facility located approximately 0.56 miles northeast of the Project Site. Reportedly, the depth to first groundwater at the referenced site is greater than 80 feet bgs, and groundwater is inferred to flow in a northeast direction.

2.8 SURROUNDING PROPERTY LAND USE

The Project Site is bordered to the north by Phil Lane, beyond which is residential property; to the east and south by Sedgwick Elementary School; to the west by residential property; and to the northwest by Finch Avenue, beyond which is residential property.

3.0 BACKGROUND

3.1 PREVIOUS ENVIRONMENTAL REPORTS

Padre reviewed the document titled *Phase I Environmental Site Assessment and Preliminary Soil Quality Evaluation, 10480 Finch Avenue, Cupertino, California* and dated July 1, 2014. A copy of the Phase I ESA has previously been provided to DTSC. The Phase I ESA was prepared by Cornerstone Earth Group (Cornerstone) on behalf of David J. Powers & Associates and, a copy was provided to DTSC. Below is a summary of the findings presented in the Phase I ESA:

The property is currently owned by F.A. Pestarino Jr. Trustee, and has been owned by the Pestarino family since the 1930s. The property historically contained a prune tree orchard. According to a review of available historical aerial photographs, the Project Site was planted as an orchard from at least 1939 through the late 1950s. The existing residential building is present in a 1956 aerial photograph.

In addition to the residence, the Project Site contains a workshop (wood-framed with corrugate metal roof) located at the southeast corner of the Project Site. Located south and adjacent to the workshop are two, small, single-room dwellings that are wood-framed and situated on concrete blocks.

In 1996 a 500-gallon gasoline UST was removed from the Project Site. Reportedly, the UST had been empty for approximately 20 years prior to removal. Two soil samples were collected below the ends of the UST at depths of approximately 7-feet below grade surface (bgs). Total petroleum hydrocarbons identified as gasoline (TPHg) were identified in soil at concentrations up to 60 milligrams per kilogram (mg/kg). The Santa Clara Valley Water District (SCVWD) subsequently issued a case-closure letter for the UST dated March 26, 1997 stating that *"Due to the low levels of hydrocarbons detected and the site location, Santa Clara Valley Water District staff believes that with time the residual pollution will naturally attenuate and does not require any further corrective action at this time."*

Because recognized environmental conditions (RECs) were identified as part of the Phase I ESA, Cornerstone conducted preliminary soil assessment activities at the Project Site. Based on the historic agricultural use (orchard) at the Project Site and the age/construction of the existing structures, a total of sixteen surface soil samples were collected throughout the Project Site and chemically analyzed for the presence of pesticides, arsenic, lead, and mercury. Five of the soil samples were collected at the perimeter of the residence, and two soil samples were collected at the perimeter of the workshop. Below is summary of the analytical results:

- Chlordane was reported at a concentration of 2.8 mg/kg at the location of soil sample SS-5, which exceeds the U.S. EPA Region 9 Residential Screening Level (RSL, EPA June 2015) of 1.7 mg/kg. Soil sample SS-5 is located along the western side of the residence;

- Arsenic was reported at concentrations ranging from 5.2 mg/kg to 15 mg/kg. The highest arsenic concentration was identified at the location of soil sample SS-6 located along the northwest property boundary; and
- Lead was reported at concentrations ranging from 9.0 mg/kg to 100 mg/kg, which exceeds the California Human Health Screening Level (CHHSL) of 80 mg/kg. The highest lead concentration was identified at the location of soil sample SS-2 located along the western side of the workshop.

The soil assessment activities included the advancement of one drill hole using direct-push drilling technology to an approximate depth of 20 feet at the location of the former UST. Soil samples were collected from approximate depths of 8 feet and 12 feet, which were chemically analyzed for the presence of TPHg, benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl-tert butyl ether (MTBE). Reportedly, TPHg, BTEX, or MTBE concentrations were not identified in the soil sample collected from a depth of 8 feet below ground surface (bgs). However, TPHg, ethylbenzene, and total xylenes were identified at concentrations of 1,300 mg/kg, 27 mg/kg, and 180 mg/kg, respectively in the 12-foot soil sample.

3.2 CHEMICALS OF POTENTIAL CONCERN

The chemicals of potential concern (COPCs) identified at the Project Site was based on the results of a previous environmental investigation and historic property use. This information is summarized below:

- The Project Site had been used for agricultural purposes (orchard) from at least 1939 through the late 1950s. Based on preliminary soil data, further assessment for OCPs associated with historic agricultural use was not warranted. However, arsenic concentrations ranged from 5.2 to 15 mg/kg across the Project Site. Therefore, at the location of soil sample SS-6 (which contained the highest concentration of arsenic), the collection of step-out soil samples was performed;
- Based on preliminary soil data, chlordane was identified at a concentration of 2.8 mg/kg at the location of soil sample SS-5, which is located on the west side of the residence (constructed circa 1950s). Therefore, step-out soil sampling for OCPs was performed at the location of SS-5 and around the perimeter of the residence and outbuildings (workshop, single-room dwelling);
- Based on preliminary soil data, lead was identified at a concentration of 100 mg/kg at the location of soil sample SS-2, which is located on the west side of the workshop. Therefore, step-out soil sampling for lead at the location of SS-2 and around the perimeter of the residence and outbuildings was performed;
- In recent years, U.S. EPA has discovered that caulk containing PCBs was used in many buildings from the 1950s through the 1970s. The residential

structure at the Project Site was constructed in the 1950s. Therefore, soil sampling for the presence of PCBs beneath large window panes at the residence was performed;

- No electrical transformers, either pad-mounted and/or pole-mounted, were identified on the Project Site. Therefore, the collection of soil samples to assess for the presence of PCBs related to electrical transformers was not performed;
- Based on the presence of a former gasoline UST and identified petroleum hydrocarbon contamination, soil vapor sampling for TPHg and VOCs was performed;
- According to the California Division of Mines and Geology, Geologic Map of San Francisco – San Jose Quadrangle California, (1:250,000), 1990 (Second Printing 2005) ultramafic outcrops are mapped approximately 7.5 miles east/south east of the Project Site, and approximately 7.5 miles south of the Project Site. Based on a review of U.S.G.S. topographic maps for the Project Site and surrounding areas (San Jose, Santa Clara), the main drainage from the ultramafic outcrops appear to be Coyote Creek, Alamos Creek, and Los Gatos Creek which drain along the east side of the Santa Clara Valley. The Project Site is situated along the west side of the Santa Clara Valley within the drainage of Calabazas Creek. Therefore, the potential presence of naturally occurring asbestos (NOA) at the Project Site from weathering and deposition of ultramafic rock outcrops is considered low and soil sampling for NOA was not performed;

4.0 CONCEPTUAL SITE MODEL

The conceptual site model is the tool used to identify the primary sources of COPCs identified at the Project Site, release mechanisms for the COPCs, 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 COPCs, ie. pesticides, metals. Receptors can include humans, animals, vegetation, surface water, and/or groundwater. Typical pathways for exposure to COPCs include:

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

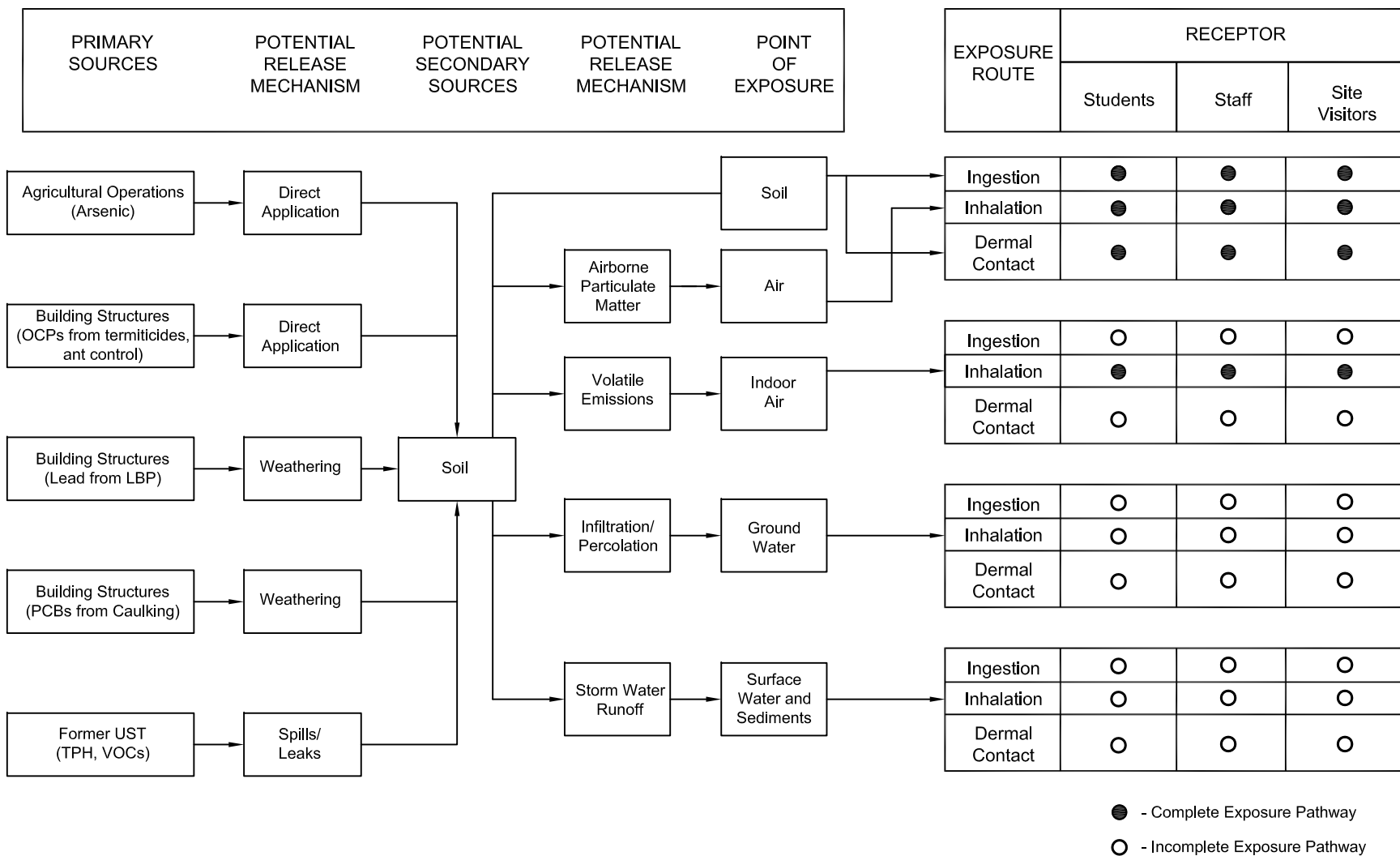
For humans and animals, exposure usually occurs by the following exposure routes:

- Ingestion or inhalation of contaminated soil particles;
- 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 COPCs in soil via the ingestion, dermal contact, and inhalation routes is considered a complete exposure pathway;
- Exposure of students, staff, and site visitors to COPCs in airborne particulate matter via the inhalation route is considered a complete exposure pathway;
- Exposure of students, staff, and site visitors to COPCs in soil vapor via the inhalation route is considered a complete 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 an elementary school site.

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



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

5.0 PEA ASSESSMENT

On July 9th and 10th, 2015 Padre completed the PEA soil and soil gas sampling activities at the Project Site in general accordance with the DTSC approved Final PEA Work Plan dated May 2015. At the time of the PEA sample collection activities, there were no unusual Project Site conditions.

The District provided notification to residents in the “immediate area” of the Project Site prior to the commencement of PEA field activities. The “immediate area” is defined as in line of sight of the Project Site. The notices were submitted on District letterhead and delivered via United States Postal Service a minimum of 5 days prior field activities. A copy of the draft notification letter was presented in the PEA Work Plan.

5.1 SAMPLE LOCATIONS

Soil samples collected around the perimeters of the buildings were located in the field using pin flags. The field sampling schedule is presented in **Tables 5-1** and **5-2**, and the sample collection information is presented in **Table 5-3**. Additionally, the sample collection locations are presented on **Plates 5-1** and **5-2**. Specific sample locations are described below.

5.1.1 Soil Sampling

The soil sample collection activities were implemented in general accordance with the guidelines of the following documents:

- California DTSC, *PEA Guidance Manual*, January 1994 (Interim Final – Revised October 2013);
- DTSC's *Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers*, Revised June 9, 2006; and
- DTSC's *Interim Guidance for Sampling Agricultural Properties*, Revised August 7, 2008.

Residence Structure. Additional soil samples were collected to further delineate the potential presence of pesticides in soil around the perimeter of the building structure and lead from weathering of lead-based paint. Soil samples were also collected beneath large window panes to identify the potential presence of PCBs from the weathering of caulking.

- At the location of SS-5 soil samples were collected at approximate depths of 1.0 to 1.5 feet and 2.0 to 2.5 feet. The 1.0 to 1.5-foot soil sample was chemically analyzed for the presence of OCPs, and the 2.0 to 2.5-foot sample was placed on-hold with the analytical laboratory;

- Around the perimeter of the residence, soil samples were collected from approximate depths of surface to 0.5 feet, 1.0 to 1.5 feet, and 2.0 to 2.5 feet bgs. The surface and 1.0 to 1.5-foot samples were chemically analyzed for the presence of OCPs and lead, and the 2.0 to 2.5-foot soil samples were placed on-hold with the analytical laboratory; and
- Surface soil samples collected beneath window panes (P-4, -9, -10, -11, -14, and -15) were chemically analyzed for the potential presence of PCBs with the deeper soil samples placed on-hold.

Outbuildings. Soil samples were collected to further delineate the presence of lead and to potentially identify residual termiticides in soil along the east and south side of the outbuildings.

- At the location of SS-2, a soil sample was collected at an approximate depth of 1.0 to 1.5 feet and chemically analyzed for the presence of lead;
- Along the west side of the outbuildings, step-out soil samples (5- and 10-foot centers) were collected at approximate depths of surface to 0.5 feet and 1.0 to 1.5 feet and chemically analyzed for the presence of lead. Soil sample P-22 was placed on-hold with the analytical laboratory pending the results of sample P-20; and
- Along the eastern and southern sides of the outbuildings, soil samples were collected at approximate depths of surface to 0.5 feet and 1.0 to 1.5 feet and chemically analyzed for OCPs and lead.

Arsenic soil samples. At the location of soil sample SS-6, discrete soil samples were collected from approximate depths of 1.0 to 1.5 feet and 2.0 to 2.5 feet to be chemically analyzed for the presence of arsenic. The 2.0 to 2.5-foot sample was placed on-hold with the analytical laboratory pending results of the 1.0 to 1.5-foot soil sample. Additionally, three step-out soil samples (AS-1, -2, and -3) were collected from approximate depths of surface to 0.5 feet, 1.0 to 1.5 feet, and 2.0 to 2.5 feet to be chemically analyzed for the presence of arsenic. The deeper soil samples were placed on hold with the analytical laboratory pending results of the surface soil samples.

Former Gasoline UST. In the area of the former 500-gallon gasoline UST, five drill holes (DH-1 through DH-5) were advanced to approximate depths of 20 feet. Drill hole DH-1 was advanced to confirm and vertically define identified contamination at the location of drill hole EB-1 (June 2014). Drill holes DH-2 through DH-5 were advanced to laterally define potential impacts. Soil samples were visually inspected and field screened using a hand-held photoionization detector (PID). Based on field screening and in consultation with the DTSC project manager, 2 to 3 soil samples per drill hole (12-, 15-, and 20-feet) were collected and chemically analyzed for the presence of TPHg, BTEX and MTBE.

5.1.2 Soil Gas Sampling

The soil gas sample collection activities were implemented in general accordance with the guidelines of the following documents:

- California DTSC, *PEA Guidance Manual*, January 1994 (Interim Final – Revised October 2013); and
- CALEPA, DTSC, *Advisory, Active Soil Gas Investigations*, April 2012.

The soil gas investigation was directed at an identified area of contamination (EB-1). Although soil gas samples were collected at the location of drill hole DH-1, there were no indications (visual, field screening) of contamination which was also observed by the DTSC project manager. Additionally, no indications of contamination at the locations of DH-2 through DH-5 were observed. Therefore, in consultation with the DTSC project manager, no additional soil gas samples were collected.

Soil gas samples were collected using the Drive Point Method. At the location of the former UST, a direct push drill rig was utilized to collect soil gas samples for chemical analyses. Prior to collection of the soil gas samples, a continuous core drill hole was completed to visually inspect and document the soil types encountered. Temporary vapor wells were completed at approximate depths of 5- and 8-feet. A soil vapor probe was constructed within the drill hole using sand-pack and hydrated bentonite to seal the wells annular space. The vapor probe was completed with a gas-tight fitting well cap and sample port. Soil gas samples were collected in summa canisters and chemically analyzed for the presence of TPHg and VOCs. The soil vapor sample locations are presented on **Plate 5-2**, and the Field Sampling Schedule for soil gas is presented in **Table 5-2**. A schematic diagram of the well design and sampling train is presented as **Plate 5-3**.

5.1.3 Quality Analysis/Quality Control Samples

For quality assurance/quality control (QA/QC), approximately 10% of the soil samples were split by the analytical laboratory and chemically analyzed as duplicates for OCPs and lead. Based on the quantity of soil gas samples collected, duplicate samples were not analyzed.

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. The collection of these samples is discussed in more detail in the QAPP presented in **Appendix B**.

5.2 SAMPLE COLLECTION

5.2.1 Soil Sample Collection

Surface and shallow subsurface soil samples were collected using hand sampling tools including a hand pick and auger. 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 placed into the sample sleeves. Soil cuttings were placed back in the hole after sample collection.

At select locations soil samples were collected using Geoprobe™ direct-push technology. The drill rod was hydraulically advanced to the desired depth and undisturbed soil samples were collected in 4 to 5-foot continuous core acetate liners. The soil cores were visually inspected and classified by a Padre geologist in accordance with the Unified Soil Classification System (USCS). Direct-push drill holes were backfilled with a tremmied neat-cement grout to approximately 6-inches bgs and completed with native soil to surface. Copies of the drill hole logs are presented as **Appendix C**.

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 E of the PEA Work Plan.

5.2.2 Soil Gas Sample Collection

Soil gas sampling activities were performed in general accordance with the DTSC *Advisory- Active Soil Gas Investigations* dated April 2012. Soil gas samples were collected from depths of approximately 5-feet and 8-feet using direct-push technology and the following procedure:

- Driving a 1-inch steel rod to the desired depth of the drill hole and then removing the rod;
- Placing a 2 to 3-inch layer of clean sand at the base of the drill hole;
- Installing a new plastic vapor implant connected to ¼-inch new Teflon tubing at the top of the clean sand;
- Placing an additional 3-inches of clean sand into the drill hole to cover the vapor implant;
- Placing approximately 1-foot of dry bentonite above the sand pack;
- Sealing the drill hole with bentonite hydrated in approximate 1-foot increments; and
- Labeling each drill hole with a unique sample id and depth.

After subsurface conditions had equilibrated (no less than two hours), a shut-in test was performed to check for leaks in the fittings. The shut-in test consisted of assembling the aboveground section of the sampling train (e.g. valve lines, fittings, flow controllers, and Summa canister downstream from the top of the probe), and evacuating the flow lines to a measured vacuum of about 100-inches of water; then shutting the valves at either end of the above ground section of the sampling train including the valve attached to the summa canister and observing the vacuum for a minimum of one minute. If there was any observable loss of vacuum, then the

fittings were adjusted as needed until the vacuum in the aboveground section of the sample train does not noticeably dissipate. After the shut-in test was successful, a leak check was performed. The leak check consisted of applying the leak check compound (1,1-difluoroethane) inside a shroud covering the surface and bentonite seal and tubing. Additionally, the leak check compound was applied near connections along the sample train. The leak-check compound was included in the laboratory analyte list and the laboratory quantified and annotated all detections of the leak-check compound at the reporting limit of the target analytes. The shut-in test and leak check were conducted prior to collecting each soil gas sample.

After performing the shut-in test and leak check, three purge volumes of soil vapor were removed from the sample lines prior to collecting the soil gas sample in 1-liter summa canisters. As discussed above, during sampling, a leak check compound is used to confirm that the sample train and probe rod is tight and leak free. After purging is complete, the valve at the top of the 1-liter summa was opened to collect the soil gas sample. The flow rate of vapor was monitored and maintained at less than 200-milliliters (mL) per minute using the flow control provided with the canisters. Additionally, during purging and sampling, a calibrated vacuum gauge was used to maintain a vacuum of less than 100-inches of water to minimize stripping and prevent ambient air from diluting the soil gas samples. As the pressure gauge reached just below 5-inches of mercury, the valve was closed and the pressure reading recorded. New tubing and canisters were used for each sample location. Sample canisters were pre-cleaned and supplied by the analytical laboratory.

5.2.3 Decontamination Procedures

All 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 was 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 ground surface.

5.3 SAMPLE ANALYSES

The sampling schedule is summarized in **Tables 5-1** and **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 and soil gas samples collected from the Project Site for the presence of:

Soil –

- OCPs by U.S. EPA Method 8081A;
- Arsenic by U.S. EPA Method 6020;
- Lead by U.S. EPA Method 6020;
- PCBs by U.S. EPA Method 8082;
- TPHg by U.S. EPA Method 8015M; and
- BTEX, MTBE by U.S. EPA Method 8260.

Soil Gas –

- TPHg, VOCs by U.S. EPA Method TO-15.

5.3.1 Chain-of-Custody Records

Chain-of-custody (COPC) records were used to document sample collection and shipment to the laboratory for analysis. A COPC record accompanied all samples delivered for analysis to McCampbell Analytical, Inc. located in Pittsburg, California. The COPC record identified the contents of each shipment and maintained the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is 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

At the request of the DTSC project manager, an additional soil sample (P-27) was collected along the eastern side of the outbuildings and chemically analyzed for the presence of OCPs and lead.

The PEA Workplan proposed that soil samples P-3, P-7, and P-12 were to be chemically analyzed for the presence of PCBs related to weathered window caulking. However, these samples were not located beneath large window panes and therefore not chemically analyzed for PCBs.

Due to low flow conditions (clay) encountered at 10 feet, a soil gas sample was collected at 8 feet (SV-1-8'). This was discussed with and approved by the DTSC project manager on July 9, 2015.

Table 5-1. Soil Sampling Schedule

Test Method	Sample Depth	Number of Samples	Sample Location	Submittal Status
Residence and Outbuildings				
OCPs U.S. EPA Method 8081A	Surface to 0.5 feet	18 (discrete)	P-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16 25, 26, 27 Dupe ~10% of samples	Analyze
	1.0 to 1.5 feet	17 (discrete)	P-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 25, 26, 27 Dupe ~10% of samples	Analyze
Arsenic U.S. EPA Method 6020	Surface to 0.5 feet	3 (discrete)	AS-1, 2, and 3	Analyze
	1.0 to 1.5 feet	1 (discrete)	SS-6A	Analyze
Lead U.S. EPA Method 6020	Surface to 0.5 feet	15 (discrete)	P-7, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28 Dupe ~10% of samples	Analyze
	1.0 to 1.5 feet	15 (discrete)	P-7, 10, 11, 13, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28 Dupe ~10% of samples	Analyze
PCBs U.S. EPA Method 8082	Surface to 0.5 feet	7 (discrete)	P-4, 9, 10, 11, 14, and 15	Analyze
	1.0 to 1.5 feet	7 (discrete)	P-4, 9, 10, 11, 14, and 15	Hold

Table 5-1. Soil Sampling Schedule (continued)

Test Method	Sample Depth	Number of Samples	Sample Location	Submittal Status
Former Gasoline UST				
TPHg U.S. EPA Method 8015m	12 feet	1 (discrete)	DH-1	Analyze
	15 feet	5 (discrete)	DH-1, 2, 3, 4 and 5	Analyze
	20 feet	5 (discrete)	DH-1, 2, 3, 4 and 5	Analyze
BTEX, MTBE U.S. EPA Method 8260	12 feet	1 (discrete)	DH-1	Analyze
	15 feet	5 (discrete)	DH-1, 2, 3, 4 and 5	Analyze
	20 feet	5 (discrete)	DH-1, 2, 3, 4 and 5	Analyze

Notes:

OCPs – Organochlorine Pesticides

PCBs – Polychlorinated Biphenyls

TPHg – Total Petroleum Hydrocarbons - Gasoline

BTEX – Benzene, toluene, ethylbenzene, xylenes

MTBE – Methyl tert butyl ether

Table 5-2. Soil Gas Sampling Schedule

Sample Matrix and Test Method	Sample Depth	Number of Samples*	Sample Location	Submittal Status
Soil Gas				
TPHg U.S. EPA Method TO-15	5-feet	1	SV-1	Analyze
	8-feet	1	SV-1	Analyze
VOCs U.S. EPA Method TO-15	5-feet	1	SV-1	Analyze
	8-feet	1	SV-1	Analyze

Notes:

TPHs – Total Petroleum Hydrocarbons

VOCs – Volatile Organic Compounds

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 and plastic end caps	Ice	14 days
Lead U.S. EPA Method 6010	2 inch x 6 inch stainless steel sample sleeves and plastic end caps	Ice	180 days
Arsenic U.S. EPA Method 6020	2 inch x 6 inch stainless steel sample sleeves and plastic end caps	Ice	180 days
PCBs U.S. EPA Method 8082	2 inch x 6 inch stainless steel sample sleeves and plastic end caps	Ice	14 days
TPHg U.S. EPA Method 8015m	25 gram Encore™ Container	Ice	48 hrs
BTEX, MTBE U.S. EPA Method 8260	25 gram Encore™ Container	Ice	48 hrs
Soil Gas			
TPHg U.S. EPA Method TO-15	Summa Canister (1 Liter)	Keep out of sun /heat	30 days
VOCs U.S. EPA Method TO-15	Summa Canister (1 Liter)	Keep out of sun /heat	30 days
QA/QC Samples (water)			
Arsenic and Lead U.S. EPA Method 200.8	250 mL poly bottle	HNO ₃ / Ice	180 days

Notes:

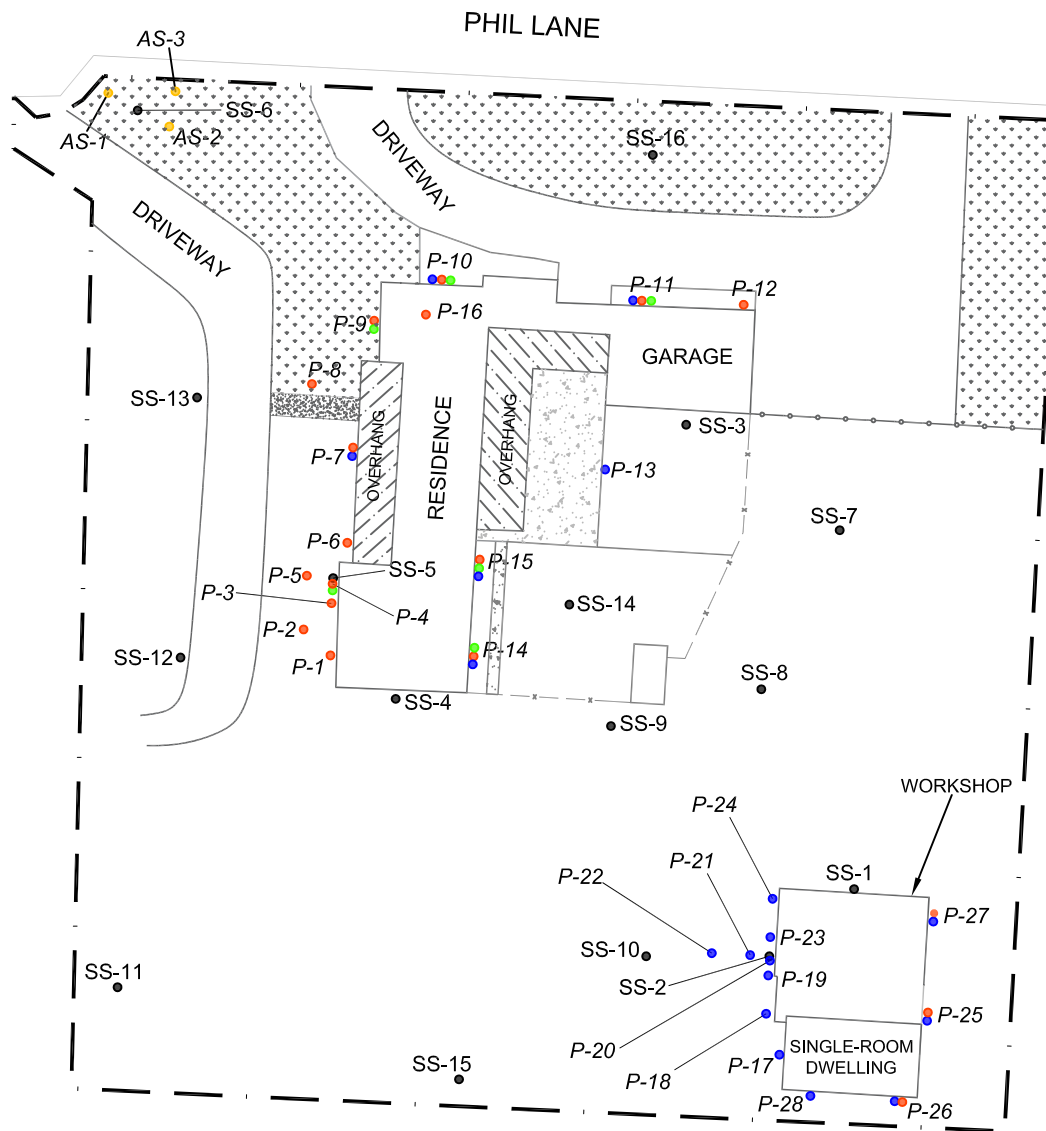
OCPs – Organochlorine Pesticides

PCBs – Polychlorinated Biphenyls

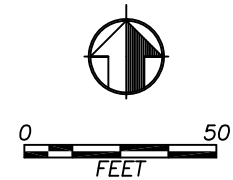
VOCs – Volatile Organic Compounds

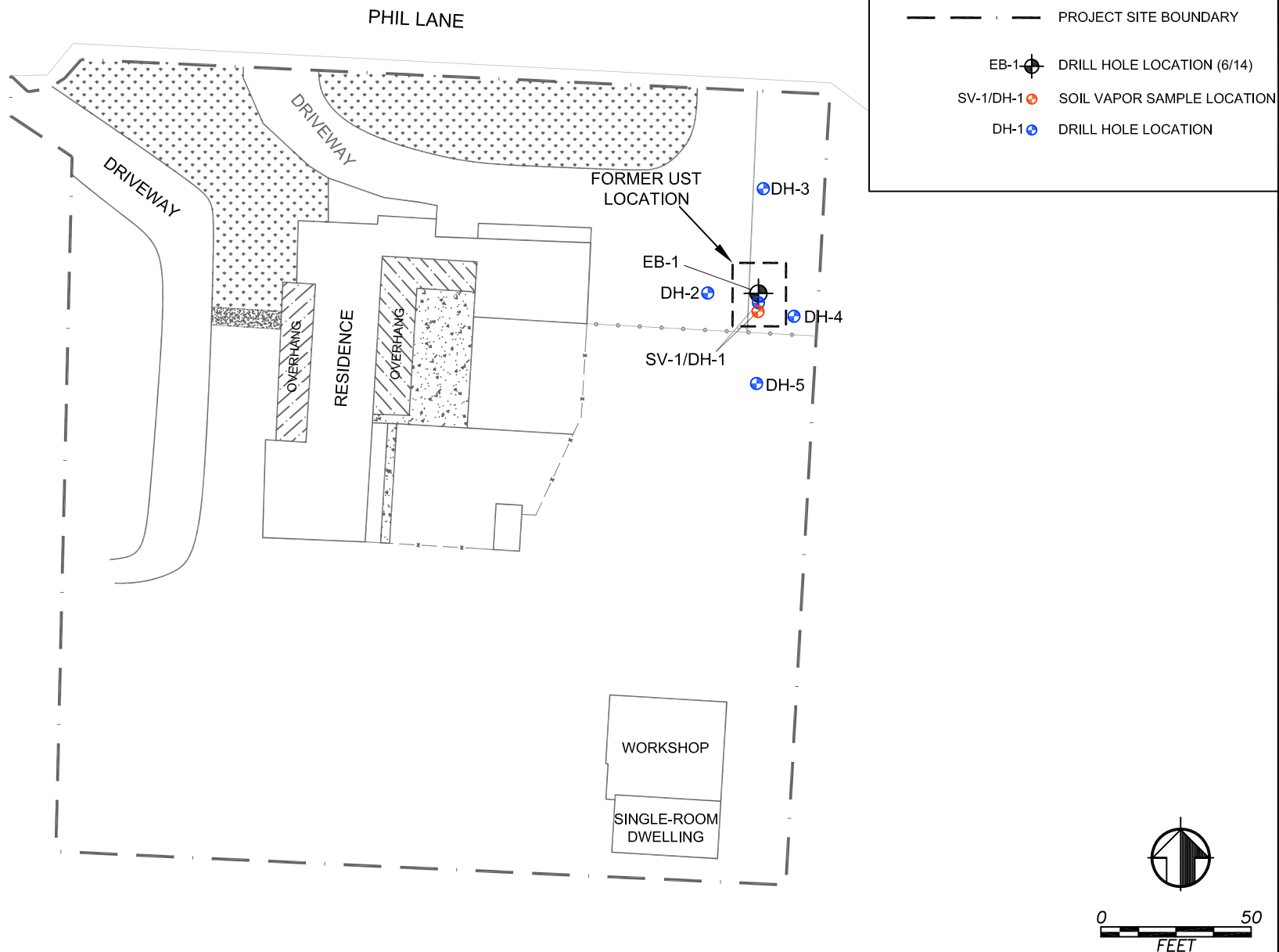
TPHg – Total Petroleum Hydrocarbons- Gasoline

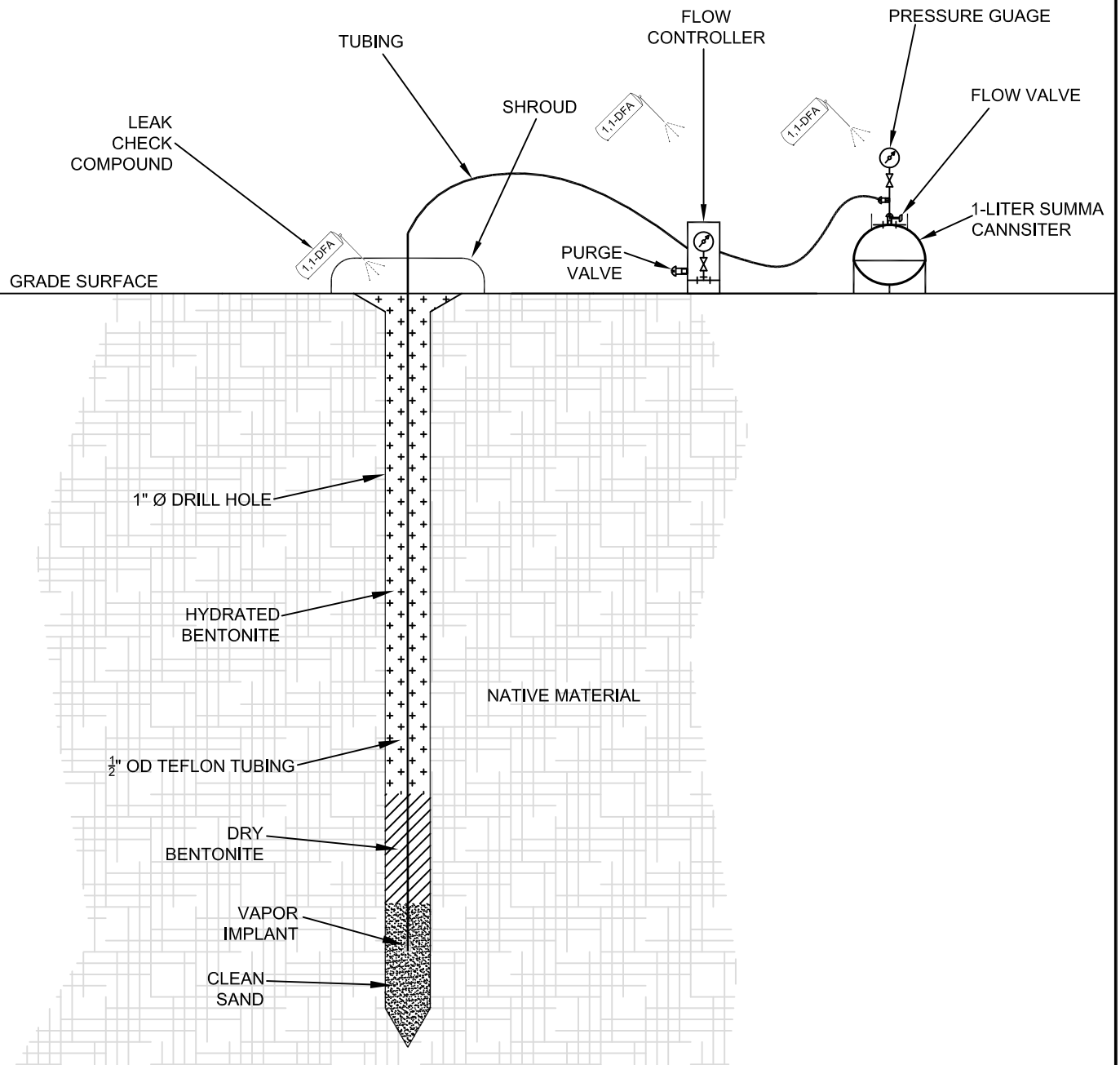
HNO₃ – Nitric Acid



- PROJECT SITE BOUNDARY
- SS-7 ● SOIL SAMPLE LOCATION (6/14)
- P-1 ● SOIL SAMPLE LOCATION (OCPs)
- P-7 ● SOIL SAMPLE LOCATION (LEAD)
- P-7 ● SOIL SAMPLE LOCATION (PCBs)
- AS-1 ● SOIL SAMPLE LOCATION (Arsenic)







NOT TO SCALE

6.0 FINDINGS

The following sections describe the results of the field sampling activities performed by Padre at the Project Site on July 9th and 10th, 2015. The laboratory analytical results are summarized in **Table 6-1** through **Table 6-6**. Certified analytical laboratory reports and chain-of-custody documentation are provided in **Appendix D**.

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 OCPs

A total of thirty-five discrete surface and subsurface soil samples were collected near the perimeters of the existing building structures and chemically analyzed for the presence of OCPs by U.S. EPA Method 8081A. Results of the laboratory analyses are presented in **Table 6-1** with the chlordane results shown on **Plate 6-1**. Additionally the results are summarized below:

- Chlordane-technical (chlordane) was reported at concentrations ranging from <25 to 13,000 micrograms per kilogram (µg/kg);
- DDD was reported at concentrations ranging from <1.0 to 9.3 µg/kg;
- DDE was reported at concentrations ranging from <1.0 to 410 µg/kg;
- DDT was reported at concentrations ranging from <1.0 to 260 µg/kg;
- Dieldrin was reported at concentrations ranging from <1.0 to 6.8J µg/kg;
- g-BHC (lindane) was reported at concentrations ranging from <1.0 to 0.49J µg/kg;
- Heptachlor was reported at concentrations ranging from <1.0 to 21 µg/kg; and
- Heptachlor epoxide was reported at concentrations ranging from <1.0 to 57 µg/kg.

6.1.2 Lead

A total of thirty discrete surface and subsurface soil samples were collected near the perimeters of the existing building structures and chemically analyzed for the presence of lead by U.S. EPA Method 6020. Results of the laboratory analyses are presented in **Table 6-2** and shown on **Plate 6-2**. Additionally the results are summarized below:

- Lead was reported at concentrations ranging from 9.0 to 310 mg/kg.

6.1.3 Arsenic

A total of three discrete surface soil samples and one subsurface soil sample were collected near the northwest corner of 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 6-2** and shown on **Plate 6-3**. Additionally the results are summarized below:

- Arsenic was reported at concentrations ranging from 5.7 to 13 mg/kg.

6.1.4 PCBs

Six discrete surface soil samples were collected from areas below window panes at the residential building and chemically analyzed for the presence of PCBs by U.S. EPA Method 8082. Results of the laboratory analyses are presented in **Table 6-3** and summarized below:

- Total PCBs (Aroclors) were not reported at concentrations at or above the reporting limit of 0.05 mg/kg.

6.1.5 TPHg and BTEX

Eleven discrete subsurface soil samples were collected from five locations in the area of the former UST and chemically analyzed for the presence of TPHg and BTEX by U.S. EPA Methods 8215M and 8260, respectively. Results of the laboratory analyses are presented in **Table 6-4** and summarized below:

- TPH-g was reported at concentrations ranging from less than 0.081 mg/kg to 0.18 mg/kg;
- Total xylenes were reported at concentrations ranging from less than 0.0032 mg/kg to 0.026 mg/kg; and
- Benzene, toluene and ethylbenzene were not reported at concentrations exceeding their respective analytical reporting limits.

6.2 SOIL GAS SAMPLING RESULTS

The following subsection describes soil gas analytical results, depths, and locations of drill holes advanced at the Project Site.

6.2.1 VOCs

Soil gas samples were collected at approximate depths of 5-feet and 8-feet and chemically analyzed for the presence of VOCs by U.S. EPA Method TO-15. Results of the laboratory analyses are presented in **Table 6-5**, and are summarized below:

- TPH-g was not reported above the reporting limit of 720 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$);
- Benzene was reported at concentrations ranging from less than 1.6 to $2.8 \mu\text{g}/\text{m}^3$;
- Toluene was reported at concentrations ranging from 5.6 to $11 \mu\text{g}/\text{m}^3$;
- Ethylbenzene was reported at concentrations ranging from 2.9 to $3.4 \mu\text{g}/\text{m}^3$;
- Total xylenes (m,p-xylene, o-xylene) was reported at concentrations ranging from less than 6.6 to $12 \mu\text{g}/\text{m}^3$; and
- 2-Hexanone was reported at concentrations ranging from less than 2.1 to $5.6 \mu\text{g}/\text{m}^3$.

6.3 QA/QC SAMPLES

6.3.1 Duplicates

The laboratory split soil samples selected by Padre that were chemically analyzed as duplicates for OCPs. The results are summarized below:

- Soil samples P-1 (SURF) and P-1 (SURF) DUPE detected comparable concentrations of chlordane (technical), DDE, DDT, and heptachlor epoxide;
- Soil samples P-9 (SURF) and P-9 (SURF) DUPE detected comparable concentrations of chlordane (technical), DDE, DDT, and heptachlor epoxide;
- Soil sample P-10 (1-1.5') and P-10 (1-1.5') DUPE detected comparable concentrations of chlordane (technical), DDE, DDT, and heptachlor epoxide; and
- Soil samples P-15 (1-1.5') and P-15 (1-1.5') DUPE detected comparable concentrations of DDD, DDE, DDT, and heptachlor epoxide.

The laboratory split soil samples selected by Padre that were chemically analyzed as duplicates for lead. The results are summarized below:

- Soil samples P-17 (SURF) and P-17 (SURF) DUPE reported identical concentrations of lead;
- Soil samples P-27 (SURF) and P-27 (SURF) DUPE reported comparable concentrations of lead;
- Soil samples P-19 (1-1.5') and P-19 (1-1.5') DUPE reported comparable concentrations of lead; and
- Soil samples P-24 (1-1.5') and P-24 (1-1.5') DUPE reported comparable concentrations of lead.

The reported concentrations for OCPs and lead in selected soil samples and the

corresponding duplicate soil samples are comparable in concentration. Therefore, the data is considered to be valid.

6.3.2 Equipment Blank

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

Two 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 are summarized below:

- The laboratory analyses did not identify arsenic at or above the analytical reporting limit. The reporting limit for arsenic was 0.5 micrograms per liter ($\mu\text{g/L}$); and
- The laboratory analyses did not identify lead at or above the analytical reporting limit. The reporting limit for lead was 0.5 $\mu\text{g/L}$.

6.3.3 Field Blank

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

Three field blank samples were collected and chemically analyzed for arsenic and lead by U.S. EPA Method 200.8. The results of the laboratory analysis are summarized below:

- The laboratory analyses did not identify arsenic at or above the analytical reporting limit. The reporting limit for arsenic was 0.5 $\mu\text{g/L}$; and
- The laboratory analyses did not identify lead at or above the analytical reporting limit. The reporting limit for lead was 0.5 $\mu\text{g/L}$.

6.3.4 Laboratory QA/QC

A cover letter with the signature of the laboratory manager accompanies every laboratory report received for this project. According to the laboratory manager results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

Work Order 1507320

The laboratory reported the following notes regarding TPH-g, BTEX, and MTBE in soil by U.S. EPA Method SW8260B:

- The reporting limits for *all samples* were near, but not identical to, the lab's standard

reporting limit due to the variable encore/solid sample weight;

- The surrogate recovery for soil sample DH-1 (15') was outside of the control limits due to matrix interference;
- The surrogate recovery for soil sample DH-2 (15') was outside of the control limits due to matrix interference; and
- The spike recovery for sample DH-2 (15') was outside of the accepted recovery limits.

Work Order 1507327

The laboratory reported the following notes regarding OCPs in soil by U.S. EPA Methods SW8081A/SW8082:

- MS/MSD recovery and/or RPD for lead was out of acceptance criteria but the LCS validated the prep batch;
- DDD was detected above the minimum detection limit and below the practical laboratory reporting limit in soil samples P-5 (SURF), P-9 (1-1.5'), P-12 (1-1.5'), P-14 (1-1.5'), and P-25 (SURF). Therefore, these concentrations are estimated;
- DDE was detected above the minimum detection limit and below the practical laboratory reporting limit in soil samples P-2 (1-1.5') and P-5 (1-1.5'). Therefore, these concentrations are estimated;
- Dieldrin was detected above the minimum detection limit and below the practical laboratory reporting limit in soil samples P-11 (1-1.5') and P-25 (SURF). Therefore, this concentration is estimated;
- g-BHC was detected above the minimum detection limit and below the practical laboratory reporting limit in the soil sample P-15 (SURF). Therefore, this concentration is estimated;
- Heptachlor was detected above the minimum detection limit and below the practical laboratory reporting limit in soil sample P-14 (SURF). Therefore, this concentration is estimated; and
- Heptachlor epoxide was detected above the minimum detection limit and below the practical laboratory reporting limit in soil samples P-3 (SURF), P-14 (SURF), P-9 (SURF) DUP, P-1 (1-1.5'), P-4 (1-1.5'), P-6 (SURF), P-6 (1-1.5'). Therefore, these concentrations are estimated.

Table 6-1 - Soil Results for OCPs
(results in µg/kg)

Sample Identification	Aldrin	(a,b,d) -BHC	Gamma-BHC	Chlordane-technical	DDD	DDE	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Hexachloro benzene	Hexachloro cyclopentadiene	Toxaphene
P-1 (SURF)	<10	<10	<10	3,700	<10	350	260	<10	<10	<10	<10	<10	<10	<10	<10	23	<10	<100	<200	<500
P-1 (SURF)DUPE	<20	<20	<20	2,800	<20	290	210	<20	<20	<20	<20	<20	<20	<20	<20	31	<20	<200	<400	<1,000
P-1 (1-1.5')	<1.0	<1.0	<1.0	87	<1.0	9.5	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.86 J	<1.0	<10	<20	<50
P-2 (SURF)	<1.0	<1.0	<1.0	120	<1.0	77	44	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	<10	<20	<50
P-2 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	0.46 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-3 (SURF)	<10	<10	<10	1,200	<10	56	46	<10	<10	<10	<10	<10	<10	<10	<10	4.0 J	<10	<100	<200	<500
P-3 (1-1.5')	<1.0	<1.0	<1.0	220	<1.0	6.5	8.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-4 (SURF)	<1.0	<1.0	<1.0	2,900	<1.0	140	130	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.4	<1.0	<10	<20	<50
P-4 (1-1.5')	<10	<10	<10	1,100	<10	44	38	<10	<10	<10	<10	<10	<10	<10	<10	7.8 J	<10	<100	<200	<500
P-5 (SURF)	<1.0	<1.0	<1.0	63	0.76 J	24	24	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<10	<20	<50
P-5 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	0.93 J	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-6 (SURF)	<10	<10	<10	3,400	<10	120	210	<10	<10	<10	<10	<10	<10	<10	<10	6.0 J	<10	<100	<200	<500
P-6 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	0.94 J	0.73 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-7 (SURF)	<10	<10	<10	1,900	<10	120	110	<10	<10	<10	<10	<10	<10	<10	<10	26	<10	<100	<200	<500
P-7 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	1.4	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-8 (SURF)	<1.0	<1.0	<1.0	57	<1.0	14	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	<10	<20	<50
P-8 (1-1.5')	<1.0	<1.0	<1.0	<25	1.1	3.9	3.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-9 (SURF)	<1.0	<1.0	<1.0	2,100	<1.0	53	120	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13	<1.0	<10	<20	<50
P-9 (SURF) DUPE	<10	<10	<10	1,800	<10	47	120	<10	<10	<10	<10	<10	<10	<10	<10	8.3 J	<10	<100	<200	<500
P-9 (1-1.5')	<1.0	<1.0	<1.0	38	0.35 J	3.9	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-10 (SURF)	<1.0	<1.0	<1.0	13,000	<1.0	39	160	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	21	57	<1.0	<10	<20	<50
P-10 (1-1.5')	<1.0	<1.0	<1.0	40	<1.0	1.4	4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-10 (1-1.5') DUPE	<1.0	<1.0	<1.0	38	<1.0	1.9	4.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<10	<20	<50
P-11 (SURF)	<1.0	<1.0	<1.0	930	<1.0	35	93	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	<1.0	<10	<20	<50
P-11 (1-1.5')	<1.0	<1.0	<1.0	95	<1.0	12	24	0.53 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<10	<20	<50
P-12 (SURF)	<1.0	<1.0	<1.0	110	<1.0	12	18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<10	<20	<50
P-12 (1-1.5')	<1.0	<1.0	<1.0	<25	0.41 J	2.7	6.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-14 (SURF)	<1.0	<1.0	<1.0	60	2.2	97	61	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.25 J	0.71 J	<1.0	<10	<20	<50
P-14 (1-1.5')	<1.0	<1.0	<1.0	<25	0.47 J	14	9.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-15 (SURF)	<1.0	<1.0	0.49 J	1,500	<1.0	410	160	6.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<10	<20	<50
P-15 (1-1.5')	<1.0	<1.0	<1.0	<25	9.3	50	36	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<10	<20	<50
HHRA NOTE #3				430																
RSLs	39	--	570	1,700	2,300	2,000	1,900	34	--	--	--	--	--	--	130	70	--	210	--	490

Table 6-1 - Soil Results for OCPs (cont')
(results in µg/kg)

Sample Identification	Aldrin	(a,b,d) -BHC	Gamma-BHC	Chlordane-technical	DDD	DDE	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Hexachloro benzene	Hexachloro cyclopentadiene	Toxaphene
P-15 (1-1.5') DUPE	<1.0	<1.0	<1.0	<25	8.9	50	31	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<10	<20	<50
P-16 (SURF)	<1.0	<1.0	<1.0	170	3.3	4.5	18	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<10	<20	<50
P-25 (SURF)	<1.0	<1.0	<1.0	<25	0.49 J	62	25	0.43 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-25 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	2.6	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-26 (SURF)	<1.0	<1.0	<1.0	<25	<1.0	43	23	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-26 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	3.1	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-27 (SURF)	<1.0	<1.0	<1.0	<25	2.8	150	62	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
P-27 (1-1.5')	<1.0	<1.0	<1.0	<25	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<20	<50
Soil Samples (Cornerstone, June 2014)																				
SS-1*	<9.9	<9.9	<9.9	<200	21	320	87	<9.9	<9.9	9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	--	--	<200
SS-2*	<2.0	<2.0	<2.0	<40	26	280	33	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-3*	<2.0	<2.0	<2.0	<39	26	280	33	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<39
SS-4*	<2.0	<2.0	<2.0	180	31	230	26	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<39
SS-5*	<20	400	280	2,800	26	360	91	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	--	<400
SS-6*	<2.0	86	50	520	28	55	26	8.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	12	<2.0	--	--	<40
SS-7*	<2.0	5.9	3.7	<40	29	240	26	2.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-8*	<2.0	<2.0	<2.0	<40	21	120	14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-9*	<2.0	7.0	5.5	67	48	260	29	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-10*	<2.0	<2.0	<2.0	<40	31	220	16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-11*	<2.0	3.2	3.5	<39	32	180	21	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<39
SS-12*	<9.7	25	31	240	17	150	60	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	--	--	<190
SS-13*	<2.0	15	12	110	21	42	14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-14*	<9.8	<9.8	<9.8	<200	28	410	88	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	--	--	<200
SS-15*	<2.0	3.5	3.9	<40	47	190	26	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	<40
SS-16*	<1.9	<1.9	<1.9	<39	<1.9	8.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	--	--	<39
HHRA NOTE #3				430																
RSLs	39	--	570	1,700	2,300	2,000	1,900	34	--	--	--	--	--	--	130	70	--	210	--	490

Notes:
µg/kg – micrograms per kilogram
* Surface soil sample (Cornerstone, June 2014)
-- Not reported
HHRA – Human Health Risk Assessment Note #3, Table 1 (May 2015).
RSL – U.S. EPA Regional Screening Levels (June, 2015)
3,700 – above RSLs

**Table 6-2 - Soil Results for Arsenic and Lead
(results in mg/kg)**

Sample Identification	Arsenic	Lead
U.S. EPA Method	6020	6020
SS-6A (1-1.5')	11	--
AS-1 (SURF)	13	--
AS-2 (SURF)	7.2	--
AS-3 (SURF)	5.7	--
P-7 (SURF)	--	39
P-7 (1-1.5')	--	79
P-10 (SURF)	--	29
P-10 (1-1.5')	--	9.3
P-11 (SURF)	--	24
P-11 (1-1.5')	--	13
P-13 (SURF)	--	92
P-13 (1-1.5')	--	17
P-14 (SURF)	--	36
P-15 (SURF)	--	220
P-17 (SURF)	--	310
P-17 (SURF) DUP	--	310
P-17 (1-1.5')	--	43
P-18 (SURF)	--	93
P-18 (1-1.5')	--	17
P-19 (SURF)	--	180
P-19 (1-1.5')	--	31
P-19 (1-1.5') DUPE	--	27
P-20 (SURF)	--	35
P-20 (1-1.5')	--	11
P-21 (SURF)	--	40
P-21 (1-1.5')	--	9.4
P-23 (SURF)	--	42
P-23 (1-1.5')	--	13
Screening Level	12 ^A	80 ^B

**Table 6-2 - Soil Results for Arsenic and Lead (cont')
(results in mg/kg)**

Sample Identification	Arsenic	Lead
U.S. EPA Method	6020	6020
P-24 (SURF)	--	83
P-24 (1-1.5')	--	10
P-24 (1-1.5') DUP	--	9.0
P-25 (SURF)	--	47
P-25 (1-1.5')	--	9.8
P-26 (SURF)	--	29
P-26 (1-1.5')	--	12
P-27 (SURF)	--	64
P-27 (SURF) DUP	--	39
P-27 (1-1.5')	--	14
P-28 (SURF)	--	150
P-28 (1-1.5')	--	12
Screening Level	12 ^A	80 ^B

Notes:

mg/kg milligrams per kilogram

-- Not analyzed

150 Above screening level

A School Site Screening level from DTSC Guidance (4/30/08)

B California Human Health Screening Level (CHSSL)

**Table 6-2 - Soil Results for Arsenic and Lead (cont')
(results in mg/kg)**

Sample Identification	Arsenic	Lead
U.S. EPA Method	6020	6020
SS-1*	11	40
SS-2*	12	100
SS-3*	8.7	20
SS-4*	7.3	23
SS-5*	13	51
SS-6*	15	75
SS-7*	8.0	20
SS-8*	7.8	18
SS-9*	7.8	42
SS-10*	8.9	27
SS-11*	6.4	19
SS-12*	8.2	72
SS-13*	5.2	52
SS-14*	8.9	33
SS-15*	6.6	22
SS-16*	6.8	9.0
Screening Level	12 ^A	80 ^B

Notes:

mg/kg milligrams per kilogram

* Surface soil sample (Cornerstone, June 2014)

100 Above screening level

A School Site Screening level from DTSC Guidance (4/30/08)

B California Human Health Screening Level (CHSSL)

**Table 6-3 - Soil Results for PCBs
(results in mg/kg)**

Sample Identification	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs Total
P-4 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
P-9 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
P-10 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
P-11 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
P-14 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
P-15 (SURF)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RSLs	0.23	0.17	0.17	0.23	0.23	0.12	0.24	0.24

Notes:
mg/kg – milligrams per kilogram
RSLs– U.S. EPA Regional Screening Level (June 2015)

**Table 6-4 – Soil Results for TPHg, BTEX, and MTBE
(results in mg/kg)**

Sample Identification	TPH-Gasoline (C ₆ –C ₁₂)	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE
U.S. EPA Method	8260	8260	8260	8260	8260	8260
DH-1 (12')	0.18	<0.0034	<0.0034	<0.0034	0.026	<0.0034
DH-1 (15')	<0.081	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
DH-1 (20')	<0.081	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
DH-2 (15')	<0.084	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
DH-2 (20')	<0.081	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
DH-3 (15')	<0.087	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035
DH-3 (20')	<0.092	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
DH-4 (15')	<0.088	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035
DH-4 (20')	<0.082	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
DH-5 (15')	<0.13	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
DH-5 (20')	<0.14	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057
HHRA Note #3		0.33	1,100			
RSL		1.2	4,900	5.8	650	47

Notes:

TPH – Total Petroleum Hydrocarbons

BTEX – Benzene, toluene, ethylbenzene, total xylenes

MTBE – Methyl tert butyl ether

HHRA – Human Health Risk Assessment Note #3, Table 1

RSL – U.S. EPA Regional Screening Level (June 2015)

**Table 6-5 - Soil Gas Results for TPHg and VOCs
by EPA Method TO-15 (µg/m³ of Vapor)**

Sample ID	TPH-Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-t butyl ether (MTBE)	2-Hexanone	All Other VOCs
SV-1 (5')	<720	<1.6	5.6	2.9	<6.6	<1.8	<2.1	<1.3
SV-1 (8')	<720	2.8	11	3.4	12	<1.8	5.6	<1.3
HHRA Note #3		97	310,000	1,100	100,000	11,000	31,000	
RSLs	31,000	360	5,200,000	1,100	100,000	11,000	31,000	

Notes:

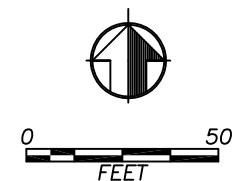
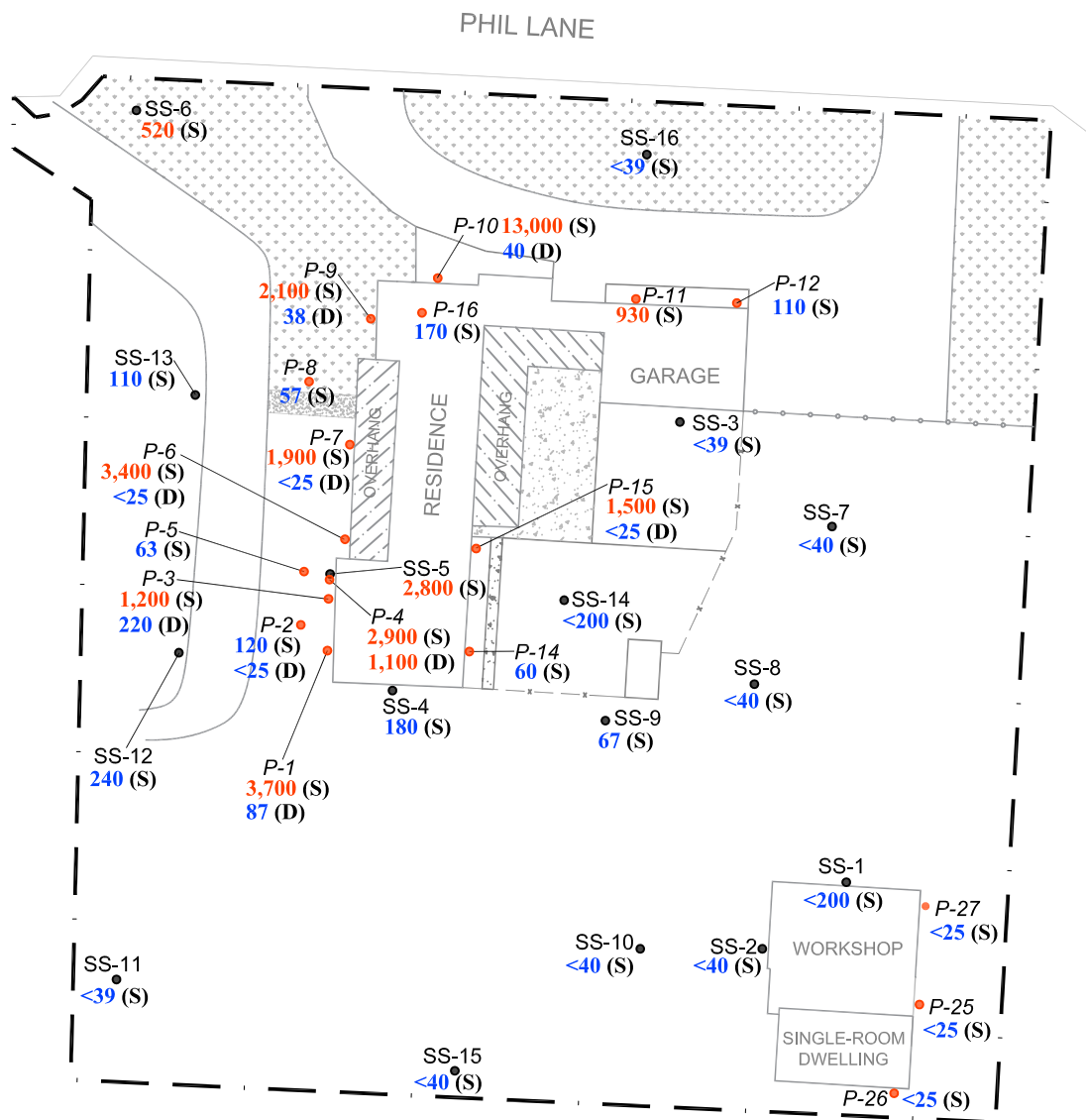
µg/m³ – micrograms per cubic meter

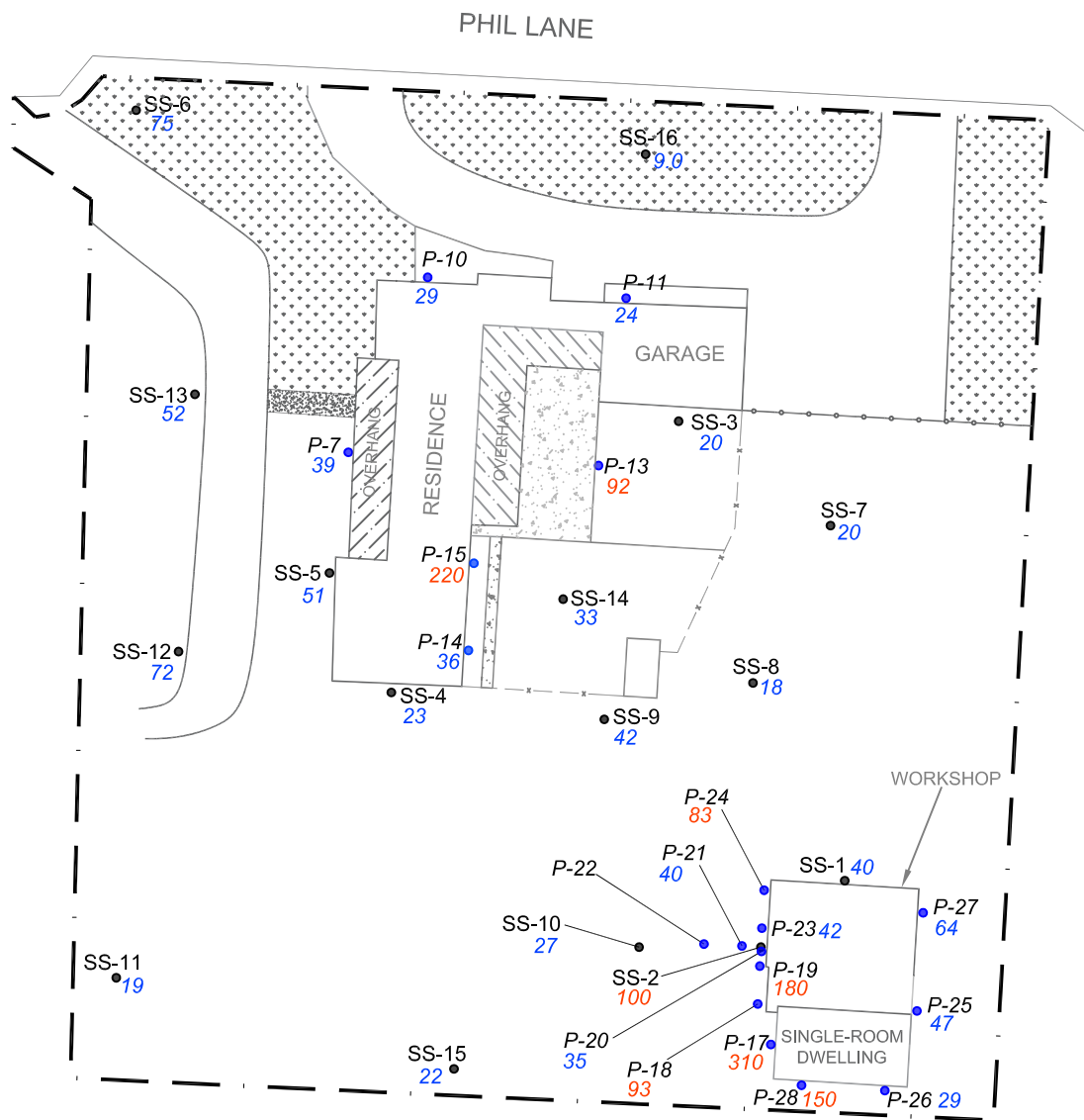
TPHg – Total Petroleum Hydrocarbons as Gasoline

HHRA – Human Health Risk Assessment Note #3, Table 3. Screening level includes attenuation factor (0.001) for future residential structures.

“—” - not established or not used

RSL – USEPA Regional Screening Level (June 2015). Screening level includes attenuation factor (0.001) for future residential structures.





--- PROJECT SITE BOUNDARY

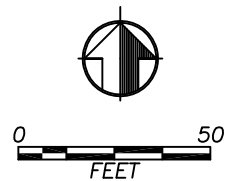
SS-7 ● SOIL SAMPLE LOCATION (6/14)

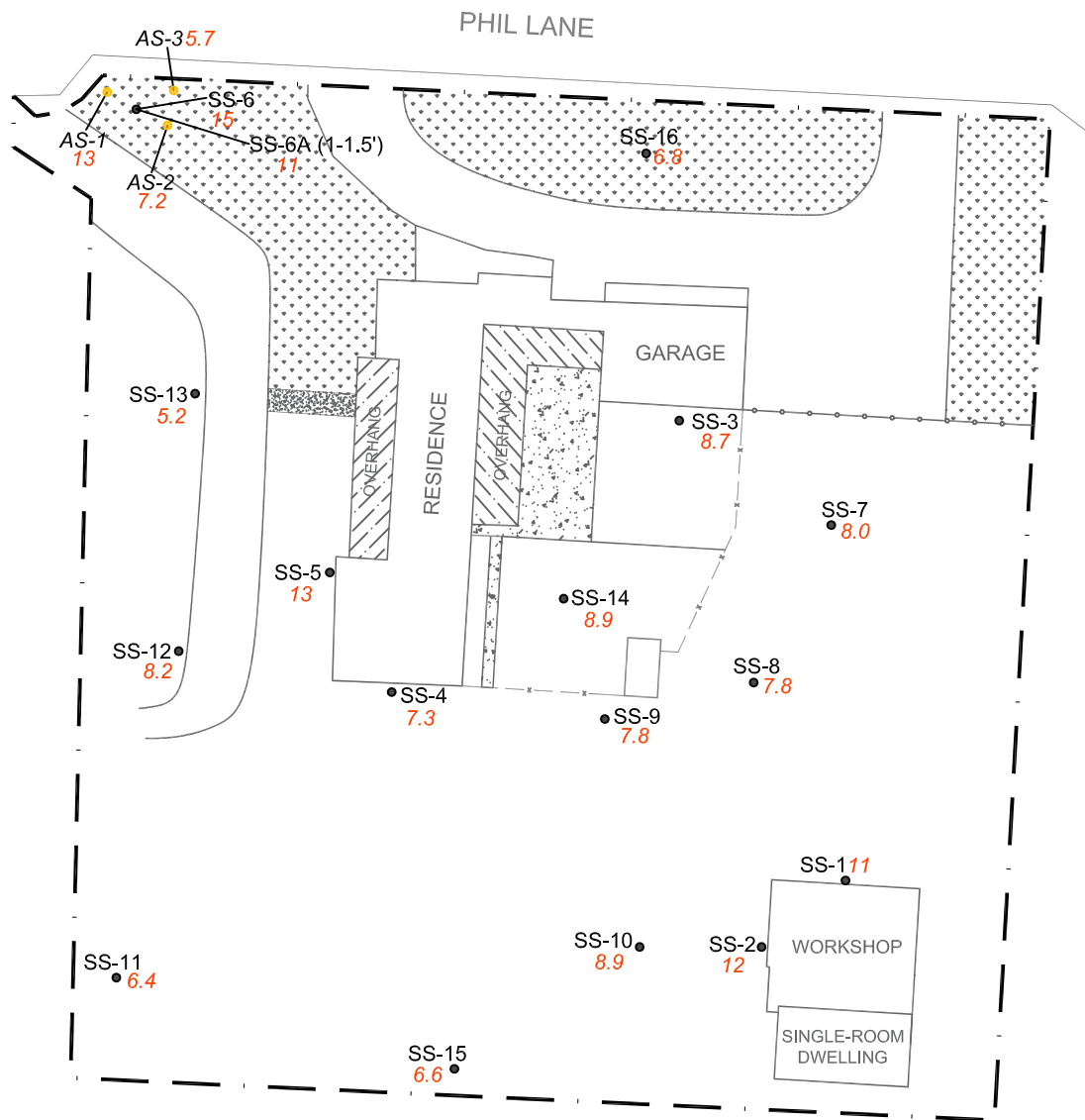
P-7 ● SOIL SAMPLE LOCATION (PEA)

23 LEAD CONC. BELOW CHHSL (80 mg/kg)

100 LEAD CONC. AT OR ABOVE CHHSL (80 mg/kg)

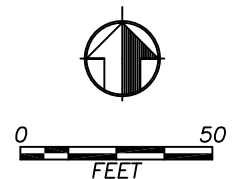
RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)





- PROJECT SITE BOUNDARY
- SS-7 ● SOIL SAMPLE LOCATION (6/14)
- AS-1 ● SOIL SAMPLE LOCATION (PEA)
- 23 ARSENIC CONCENTRATION

RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)



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 COPCs in soil and soil gas were evaluated:

Soil

- OCPs – chlordane, DDD, DDE, DDT, dieldrin, gamma-BHC (lindane), heptachlor, and heptachlor epoxide;
- Metals – Arsenic and lead; and
- VOCs – TPH-g and total xylenes.

Soil Gas

- VOCs – benzene, toluene, ethylbenzene, total xylenes, and 2-hexanone.

7.2 SOIL RISK ASSESSMENT

The DTSC-modified screening levels or the U.S. EPA RSLs (if DTSC-modified screening levels were not available) 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 COPC intake below the level at which deleterious health effects are considered possible.

In accordance with PEA guidance documents and DTSC's Human Health Risk Assessment (HHRA) Note No.3, dated May 2015, the maximum detected chemical concentrations in soil were evaluated as potential exposure point concentrations (EPCs). 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 sums of the chemical-specific screening cancer risk and screening hazard index are the cumulative screening cancer risk and hazard index, respectively.

The total risk from COPCs identified in soils at the Project Site was estimated to be 3.2×10^{-5} , which provides an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from COPCs identified in soils at the Project Site was estimated to be 0.46, which does not present an increased health hazard (i.e., >1). Therefore, a response action to reduce or eliminate the COPCs identified in surficial soils at the Project Site is recommended. The results of the screening-level evaluation are presented in **Table 7-1**.

Arsenic concentrations ranged from 5.2 to 15 mg/kg in soil samples collected from across the Project Site. The arsenic data set consisted of four soil samples collected as part of the PEA, and 16 soil samples previously collected as part of a preliminary soil evaluation completed by others (Cornerstone, 2014). The four PEA soil samples were collected as step-out and step-down samples at the location of soil sample SS-6, which reported the highest Project Site arsenic concentration at 15 mg/kg. Arsenic concentrations reported for the PEA soil samples ranged from 5.7 to 13 mg/kg, indicating that arsenic concentrations in soil at this location do not present a potential “hotspot” for arsenic in soil. A statistical evaluation was performed by calculating the 95% Upper Confidence Limit (UCL) for the arsenic data set. The 95% UCL for arsenic in soil at the Project Site was calculated to be 10 mg/kg. A graphical evaluation completed by creating a normal probability plot of the arsenic data set. The shape of the plotted data presents a relatively normal distribution. Therefore, arsenic concentrations identified in surface soil at the Project Site are representative of ambient concentrations and further assessment and/or remedial action for arsenic in soil is not warranted. A copy of the normal probability plot and ProUCL output sheet are presented in **Appendix E**.

Lead concentrations ranged from 9.0 mg/kg to 310 mg/kg in soil samples collected across the Project Site. A risk assessment was performed using the DTSC lead risk assessment spreadsheet model (LeadSpread Version 8). Based on the LeadSpread output, exposure to the lead concentrations detected at the Project Site will result in a 90th percentile blood lead concentration of 8.0 µg/dl in children which exceeds the Office of Environmental Health Hazard Assessment (OEHHA) blood toxicity level of 1 µg/l. Therefore, a response action to reduce or eliminate the lead-impacted soil is recommended. A copy of the LeadSpread Risk Assessment Spreadsheet is presented in **Appendix E**.

7.3 SOIL GAS RISK ASSESSMENT

The objective of the soil gas survey was to evaluate shallow soil gas beneath the Project Site for potential VOC impacts. The source of the potential impacts was identified to be a former 500-gallon UST located on the northeast side of the Project Site. Several low level VOCs constituents, including BTEX, were identified in soil gas samples collected at the Project Site. Therefore, a risk evaluation was performed.

DTSC's *SG Screen* Version 2.0 (4/03) (DTSC modification December 2014) Screening Level Model for Soil Gas Contamination (based on the Johnson-Ettinger Indoor Vapor Intrusion Model) was used to estimate the cumulative risk and hazard associated with the carcinogenic and the non-carcinogenic constituents detected in soil gas. Soil vapor drill holes were advanced at the former location of the UST. Based on the soil conditions encountered and potential future building construction, the following parameters were used for the screening evaluation:

- Soil gas sample collection depths were approximately 5 and 8-feet;
- Static groundwater was not encountered;
- The highest constituent concentrations were used from each sample depth;

- The depth below grade to bottom of enclosed space floor (L_F) is 15-centimeters (slab-on-grade);
- The general soil type encountered (within upper 8 feet) was classified as clay (CL); and
- Conservative default values were used for the remaining input parameters.

The leak check compound (1,1-difluoroethane) was not detected in any of the soil gas samples. Therefore, the collected soil gas samples are representative of shallow soil gas conditions at the Project Site.

The results of the soil gas assessment conducted at the Project Site identified low level concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX), as well as 2-hexanone. However, none of the VOC constituents exceeded their respective human health screening levels. The results of the PEA screening level risk assessment calculated that the total risk from COPCs identified in soil gas was estimated to be 8.6×10^{-9} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The cumulative hazard is estimated to be 0.0003, which does not provide a significant health hazard (>1). Therefore, further assessment and/or remediation regarding VOCs identified in soil gas at the Project Site is not warranted. Results of the soil gas model are summarized in **Table 7-2**, and copies of the screening level model spreadsheets are included as **Appendix E**.

Table 7-1
Soil Exposure Screening Evaluation
Sedgwick Elementary School Expansion Project
Cupertino Union School District

COPC	Exposure-Point Concentration (mg/kg)	Carcinogenic Risk			Non-carcinogenic Hazard		
		Screening Level (mg/kg)	Source	Cancer Risk	Screening Level (mg/kg)	Source	Hazard Index
Chlordane	13	0.43	HHRA Note #3	3.02E-05	34	RSL	3.82E-01
DDD	0.0093	2.3	RSL	4.04E-09	37	Surrogate RSL	2.51E-04
DDE	0.41	2	RSL	2.05E-07	37	Surrogate RSL	1.11E-02
DDT	0.26	1.9	RSL	1.37E-07	37	RSL	7.03E-03
Dieldrin	0.0068	0.034	RSL	2.00E-07	3.2	RSL	2.13E-03
g-BHC (lindane)	0.00049	0.57	RSL	8.60E-10	21	RSL	2.33E-05
Heptachlor	0.021	0.13	RSL	1.62E-07	39	RSL	5.38E-04
Heptachlor Epoxide	0.057	0.07	RSL	8.14E-07	1	RSL	5.70E-02
TPH-aromatic low	0.18	nc	RSL	NA	82	RSL	2.20E-03
Total Xylenes	0.026	nc	RSL	NA	650	RSL	4.00E-05
			Total Risk:	3.18E-05	Total Hazard:		4.63E-01
Notes:							
COPC = chemical of potential concern							
EPC = exposure point concentration							
Exposure Point Concentration = maximum detected concentration in soil samples collected at the site							
HHRA = Human Health Risk Assessment Note #3, Table 1 (DTSC HERO, May 2015)							
RSL = regional screening level for residential soil (U.S.EPA June 2015)							
mg/kg = milligrams per kilogram							
Surrogate RSL = RSL not established for DDD, DDE. RSL for DDT was used as a surrogate value.							
nc = non-carcinogenic							
NE = not established							
NA = not applicable							

Table 7-2. Results of Soil Gas Screening Level Risk Assessment

Project Site Soils (0-8 feet bgs)		Project Site Soils (0-8 feet bgs)	
COPC (1)	Risk by COPC (2)	COPC (1)	Hazard by COPC (3)
Benzene	7.7E-09	Benzene	2.4E-04
Toluene	NA	Toluene	8.2E-06
Ethylbenzene	8.5E-10	Ethylbenzene	9.2E-07
Xylenes	NA	Xylenes	2.4E-05
4-Methyl-4-pentanone (MIBK)	NA	4-Methyl-4-pentanone (MIBK)	3.9E-07
Risk by Pathway	Total Risk (4) 8.6E-09	Hazard by Pathway	Total Hazard (5) 2.7E-04

Notes	
(1)	Chemical of Potential Concern (COPC)
(2)	Risk from each COPC (Cumulative)
(3)	Hazard from each COPC (Cumulative)
(4)	Total calculated cancer risk
(5)	Total calculated hazard quotient
NA	Not Applicable

8.0 ECOLOGICAL SCREENING

A detailed ecological screening evaluation was not performed as part of the PEA because the Project Site has been developed as a residential property since the 1950s. Natural wildlife areas were not noted at 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 COPCs 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 COPCs were evaluated:

Soil

- OCPs – chlordane, DDD, DDE, DDT, dieldrin, gamma-BHC (lindane), heptachlor, and heptachlor epoxide;
- Metals – Arsenic and lead; and
- VOCs – TPH-g and total xylenes.

Soil Gas

- VOCs – benzene, toluene, ethylbenzene, total xylenes, and 2-hexanone.

Risk Assessment

The results of the PEA screening level risk assessment estimated the total risk from COPCs identified in soils at the Project Site to be 3.2×10^{-5} , which provides an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The total health hazard from COPCs identified in soils at the Project Site is estimated to be 0.46, which does not provide an increased health hazard (i.e., >1). Therefore, a response action to reduce and/or eliminate the COPCs identified in surficial soils at the Project Site is recommended.

Lead concentrations ranged from 9.0 to 310 mg/kg in soil samples collected throughout the Project Site. Using DTSC's lead risk assessment spreadsheet model (LeadSpread Version 8), exposure to the lead concentrations identified at the Project Site would result in a 90th percentile blood lead concentration of 8.0 micrograms per deciliter ($\mu\text{g}/\text{dl}$) in children, which exceeds OEHHA's blood toxicity level of 1 $\mu\text{g}/\text{dl}$. Therefore, a response action to reduce or eliminate lead-impacted soil is recommended.

Arsenic concentrations ranged from 5.2 to 15 mg/kg in soil samples collected from across the Project Site. The arsenic data set consisted of four soil samples collected as part of the PEA, and 16 soil samples previously collected as part of a preliminary soil evaluation completed by others (Cornerstone, 2014). The four PEA soil samples were collected as step-out and step-down samples at the location of soil sample SS-6, which reported the highest Project Site arsenic concentration at 15 mg/kg. Arsenic concentrations reported for the PEA soil samples ranged from 5.7 to 13 mg/kg, indicating that arsenic concentrations in soil at this

location do not present a potential “hotspot” for arsenic in soil. A statistical evaluation was performed by calculating the 95% Upper Confidence Limit (UCL) for the arsenic data set. The 95% UCL for arsenic in soil at the Project Site was calculated to be 10 mg/kg. A graphical evaluation completed by creating a normal probability plot of the arsenic data set. The shape of the plotted data presents a relatively normal distribution. Therefore, arsenic concentrations identified in surface soil at the Project Site are representative of ambient concentrations and further assessment and/or remedial action for arsenic in soil is not warranted.

Results of the soil gas assessment conducted at the Project Site identified low level concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), and 2-hexanone. However, none of the VOC constituents exceeded their respective human health screening levels. The results of the PEA screening level risk assessment calculated that the total risk from COPCs identified in soil gas was estimated to be 8.6×10^{-9} , which does not provide an increased cancer risk of greater than 1 in 1,000,000 ($>10^{-6}$). The cumulative hazard is estimated to be 0.0003, which does not provide a significant health hazard (>1). Therefore, further assessment and/or remediation regarding VOCs identified in soil gas at the Project Site is not warranted.

Recommendations

Based on the results of the PEA, soil and soil gas at the location of the former 500-gallon capacity gasoline UST has not been significantly impacted from the former presence of the UST. Subsurface soil in the area of the UST generally consists of a stiff clay material, and any residual petroleum hydrocarbons in soil will degrade over time by natural attenuation processes. Therefore, further assessment and/or remediation regarding the former UST is not warranted.

Based on the results of the PEA, chlordane and lead have been identified in surface soils at the Project Site at concentrations exceeding their respective human health screening levels. The total increased cancer risk from chlordane identified in soils at the Project Site is estimated to be 3.2×10^{-5} , which exceeds DTSC’s ‘point of departure’ of 1 in 1,000,000 ($>10^{-6}$). Due to elevated concentrations of chlordane and lead identified in surface soil around existing structures located at the Project Site, Padre recommends a response action to reduce or eliminate the potential impact of these contaminants. The recommended remedial action is excavation, removal, and offsite disposal at an appropriate landfill. Prior to the response action, Padre recommends conducting a Supplemental Site Investigation (SSI) to further define chlordane and lead impacts around the structures.

10.0 REFERENCES

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Duggan, Mary Ann, P.E., Director – Facility Modernization – Cupertino Union SD

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APPENDIX A
DTSC CORRESPONDENCE



Matthew Rodriguez
Secretary for
Environmental Protection



Department of Toxic Substances Control

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Edmund G. Brown Jr.
Governor

June 4, 2015

Ms. Mary Ann Duggan, P.E.
Director – Facility Modernization
Cupertino Union School District
10301 Vista Drive
Cupertino, California 95014

APPROVAL OF REVISED PRELIMINARY ENVIRONMENTAL ASSESSMENT WORKPLAN,
CUPERTINO UNION SCHOOL DISTRICT, SEDGWICK ELEMENTARY SCHOOL
EXPANSION PROJECT, 10480 FINCH AVENUE, CUPERTINO (SITE CODE 204271)

Dear Ms. Duggan:

The Department of Toxic Substances Control (DTSC) reviewed the revised Preliminary Environmental Assessment Workplan (PEA Workplan – Padre Associates, Inc., May 28, 2015) received on May 28, 2015. The PEA Workplan was revised in response to DTSC comments on the draft version forwarded in an electronic mail dated May 15, 2015. The PEA Workplan includes project background information as well as proposed investigation activities.

According to the PEA Workplan, the approximately 1.48-acre property consists of a single family residential parcel identified by the Santa Clara County Office as Assessor's Parcel Number 375-40-067, located at 10480 Finch Avenue, Cupertino, California (Site). The Site has been used as residential property since 1956. Orchard trees existed on the Site from 1939 to 1956. Two small, single-room dwellings are located to the south of a workshop. The dwellings are reportedly of wood-frame construction and are resting on concrete blocks. A 500-gallon gasoline underground storage tank (UST) was removed from the Site in 1996. Laboratory analyses of two soil samples, collected during the UST removal from below the tank, detected total petroleum hydrocarbons as gasoline (TPHg) (up to 60 milligrams per kilogram [mg/kg]), benzene (up to 0.081 mg/kg), toluene (up to 0.030 mg/kg), ethyl benzene (up to 0.094 mg/kg) and xylenes (up to 0.130 mg/kg). Subsequently, The Santa Clara Valley Water District issued a case closure letter on March 26, 1997 stating that no further action related to the UST release was required.

Ms. Mary Ann Duggan, P.E.

June 4, 2015

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The Site is bound to the north by Phil Lane followed by single family residential subdivisions; to the south by Sedgwick Elementary School playfield, followed by single family residential subdivisions; to the west by single family residential subdivisions; and, to the east by Sedgwick Elementary School, followed by South Tantau Avenue and single family residential subdivisions. The addition of the Site to the existing Sedgwick Elementary School will not result in an addition of classrooms or students. Potable water and sewer services will be provided to the Site through the City of Cupertino.

The PEA Workplan will investigate the Site for potential chemicals of concern (COCs), including arsenic in surfaces soil from historic agricultural use; residual pesticides in soils associated with termiticides; the potential for lead in soils from the weathering of lead-based paint from existing structures; the potential for polychlorinated biphenyls in soil from the weathering of caulking compounds around old window frames of historic and existing buildings; and, the potential presence of TPHg and volatile organic compounds in soil and soil vapors in the location of the former 500-gallon UST.

DTSC comments have been addressed, with the caveat noted below, and the PEA Workplan is hereby approved. Based on field observations or as directed by the DTSC Project Manager, additional soil gas samples from step-out locations, may be required. In accordance with Education Code section 17210.1(b), the Cupertino Union School District (District) shall provide written notice to residents in the immediate area, approved in form by DTSC, at least five days in advance of field investigation activities. The intent of this requirement is to provide advance 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 proposed Site. Please notify DTSC a minimum of 48 hours in advance of field work or schedule changes.

The PEA Workplan indicated that the District is intending to make the PEA Report available for public review by Option A of the Education Code section 17213.1(a)(6)(A).

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

Sincerely,



Jose Luevano, Project Manager
Northern California Schools Unit
Brownfields and Environmental Restoration Program

cc: (via e-mail)

Ms. Mary Ann Duggan, P.E.

June 4, 2015

Page 3

Mr. Alan J. Klein, R.E.P.A., C.P.E.S.C., C.E.M.

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APPENDIX B

QUALITY ASSURANCE PROJECT PLAN (QAPP)

APPENDIX B

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES

The QA/QC procedures will be employed in both the field and the laboratory. QA/QC samples include the collection of equipment rinsate 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:

- Chain-of-Custody (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 rinsate blank per sample event;
- Field blanks - One field blank sample per sample event; and
- Field duplicates – Approximately 10% of the collected samples will be analyzed as duplicate samples for select chemical analyses.

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 arsenic using the same analytical method 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 arsenic 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 Samples

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 and lead.

Duplicate soil gas sample(s) will be collected immediately after the original sample, in separate sample containers, at the same location and depth. Duplicate soil gas samples will be analyzed for VOCs.

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, and completeness 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.

Detection Limits

Detection limits for OCPs and metals that will be met by the analytical laboratory are listed in the following DTSC document(s), and are attached:

- DTSC's *Advisory – Active Soil gas Investigations*, dated April 2012, and
- DTSC, *Interim Guidance, Evaluation of School Sites with Potential Contamination as a Result of Lead from Lead-Based-Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers*, revised June 9, 2006.

Padre proposes to utilize McCampbell Analytical Inc. (McCampbell) located in Pittsburg, California to provide the required chemical analyses of collected soil, soil gas, and water samples. McCampbell is certified (No. 1644) by the California State Environmental Laboratory Accreditation Program Branch to provide the required chemical analyses.

APPENDIX C
DRILL HOLE LOGS





LOG OF DRILL HOLE DH-1

CUPERTINO UNION SCHOOL DISTRICT
SEDGWICK ELEM. SCHOOL EXPANSION
CUPERTINO, CA



Project Number :1401-2171
Project Name :PEA
Logged By :Alan Churchill
Checked By :Jerome K. Summerlin, C.E.G.
Driller :TEG
Drilling Method :Direct Push
Boring Total Depth :20 Feet
Drilling Date/ Time :6-9-15/ 1000-1030
Backfilled With :Neat Cement Grout
Encountered GW Depth :NA

WELL CONSTRUCTION

DESCRIPTION

Depth in Feet	Blow Count	USCS	GRAPHIC	Water Levels	PID (ppm)	Sample Submitted for Analyses	DESCRIPTION
0		ML					Dirt surface (approx. center of UST cavity). Sandy clay - Brown, fine to medium grain sand, dry, increasing clay with depth, no odor, no stain.
5		CL					Gravelly Clay - Brown, dry, medium stiff, gravel up to $\frac{1}{2}$ ", no stain, no odor.
10				0.0	X		Clay- Brown to dark brown, stiff, slight moisture, some mottling, no stain, no odor.
15		CL		0.0	X		Clay- Brown, very stiff, slight moisture, no stain, no odor.
20				0.0	X		Very slow drilling (tight clay)
25							Clay- Brown, very stiff, slight moisture, no stain, no odor.
30							Refusal at 20 feet. Groundwater not encountered.
35							
40							

Notes:

-  First encountered groundwater
-  Static groundwater

padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE DH-2

CUPERTINO UNION SCHOOL DISTRICT
SEDGWICK ELEM. SCHOOL EXPANSION
CUPERTINO, CA

Project Number :1401-2171 Drilling Method :Direct Push
Project Name :PEA Boring Total Depth :20 Feet
Logged By :Alan Churchill Drilling Date/ Time :6-9-15/ 1130-1200
Checked By :Jerome K. Summerlin, C.E.G. Backfilled With :Neat Cement Grout
Driller :TEG Encountered GW Depth :NA

WELL CONSTRUCTION

Depth
in
Feet

Blow Count

USCS

GRAPHIC

Water Levels

PID (ppm)

Sample Submitted
for Analyses

DESCRIPTION

0

5

10

15

20

25

30

35

40

CL

CL

0.0

0.0

0.0

X

X

Grout

Asphalt surface. Hand auger to 5 feet.

Silty clay - Dark brown, stiff, slightly moist, no stain, no odor.

Clay - Dark brown, stiff, dry, minor mottling, no stain, no odor.

Clay- Brown, medium stiff, moist, minor gravel ($\frac{3}{8}$ "), no stain, no odor.

Clay- Brown, very stiff, slight moisture, no stain, no odor.

Clay- Brown, very stiff, ,moist, no stain, no odor.

Refusal at 20 feet.
Groundwater not encountered.

Notes:

- ▼ First encountered groundwater
- ▽ Static groundwater

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ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE DH-3

CUPERTINO UNION SCHOOL DISTRICT
SEDGWICK ELEM. SCHOOL EXPANSION
CUPERTINO, CA

Project Number :1401-2171 Drilling Method :Direct Push
Project Name :PEA Boring Total Depth :20 Feet
Logged By :Alan Churchill Drilling Date/ Time :6-9-15/ 1400-1430
Checked By :Jerome K. Summerlin, C.E.G. Backfilled With :Neat Cement Grout
Driller :TEG Encountered GW Depth :NA

WELL CONSTRUCTION

DESCRIPTION

Depth in Feet	Blow Count	USCS	GRAPHIC	Water Levels	PID (ppm)	Sample Submitted for Analyses	DESCRIPTION
0							Dirt surface. Hand auger to 5 feet.
5		CL					Silty clay - Brown, stiff, dry, no stain, no odor.
10					0.0		Clay - Dark brown, stiff, gravels up to $\frac{1}{2}$ ", no stain, no odor.
15		CL			0.0	X	Clay- Brown, very stiff, slight moisture, no stain, no odor.
20					0.0	X	Clay- Brown, very stiff, moist, no stain, no odor.
25							Refusal at 20 feet.
30							Groundwater not encountered.
35							
40							

Notes:

- ▼ First encountered groundwater
- ▽ Static groundwater

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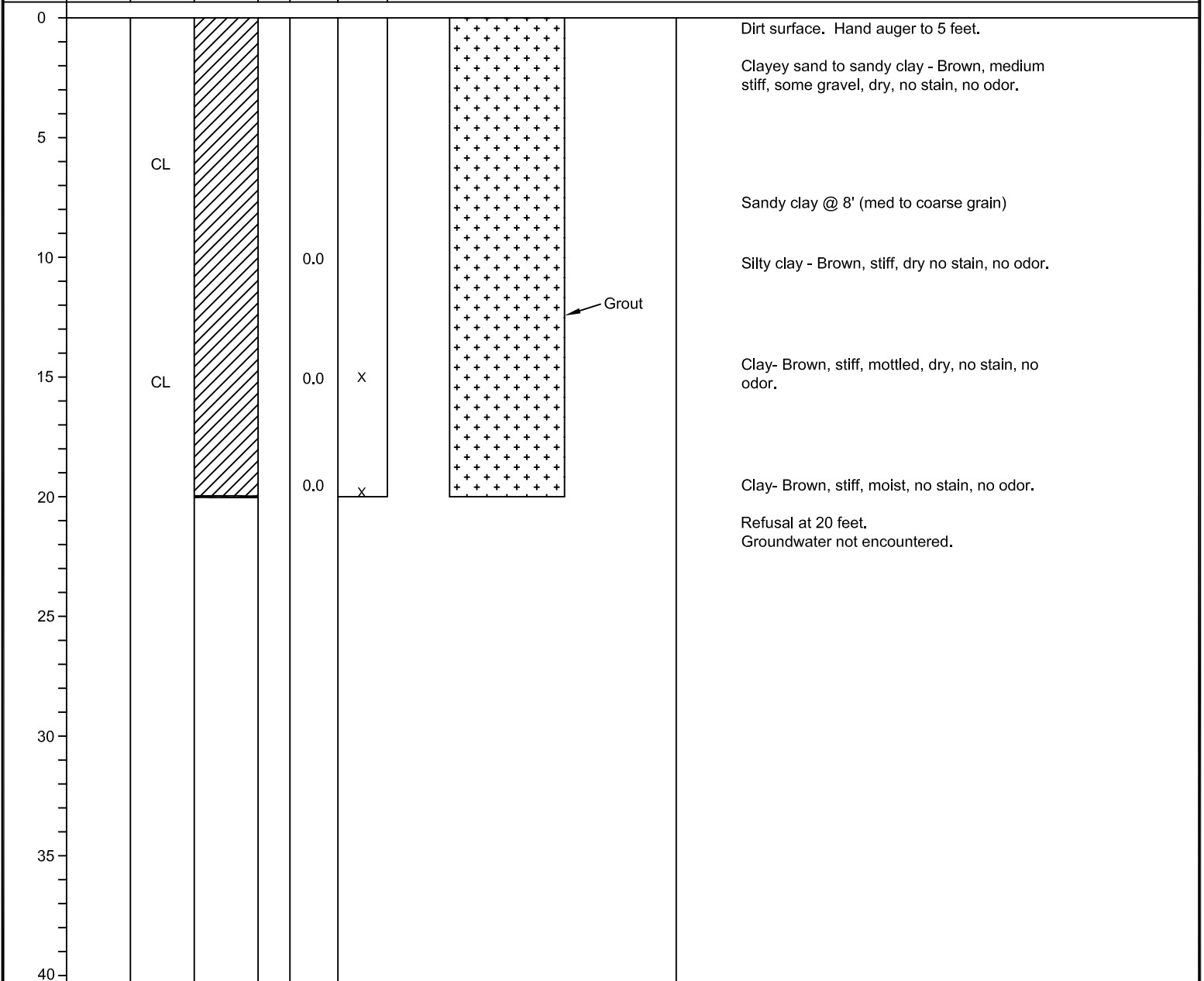
LOG OF DRILL HOLE DH-4

CUPERTINO UNION SCHOOL DISTRICT
 SEDGWICK ELEM. SCHOOL EXPANSION
 CUPERTINO, CA

Project Number :1401-2171 Drilling Method :Direct Push
 Project Name :PEA Boring Total Depth :20 Feet
 Logged By :Alan Churchill Drilling Date/ Time :6-9-15/ 0900-0945
 Checked By :Jerome K. Summerlin, C.E.G. Backfilled With :Neat Cement Grout
 Driller :TEG Encountered GW Depth :NA

WELL CONSTRUCTION

DESCRIPTION



Notes:

- ▼ First encountered groundwater
- ▽ Static groundwater

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LOG OF DRILL HOLE DH-5

CUPERTINO UNION SCHOOL DISTRICT
SEDGWICK ELEM. SCHOOL EXPANSION
CUPERTINO, CA

Project Number :1401-2171 Drilling Method :Direct Push
Project Name :PEA Boring Total Depth :20 Feet
Logged By :Alan Churchill Drilling Date/ Time :6-9-15/ 1300-1330
Checked By :Jerome K. Summerlin, C.E.G. Backfilled With :Neat Cement Grout
Driller :TEG Encountered GW Depth :NA

WELL CONSTRUCTION

Depth
in
Feet

Blow Count

USCS

GRAPHIC

Water Levels

PID (ppm)

Sample Submitted
for Analyses

DESCRIPTION

0

5

10

15

20

25

30

35

40

CL

CL

0.0

0.0

0.0

x

x

Grout

Dirt surface. Hand auger to 5 feet.

Silty clay - Brown, medium stiff, dry to slightly moist, no stain, no odor.

Clay - Dark brown, moist, stiff, organics (roots), minor gravel ($\frac{1}{4}$ "), no odor, no stain.

Silty clay - Dark brown, stiff, some mottling, slight moisture, no stain, no odor.

Silty clay - Light brown, stiff, dry, some coarse sand, no stain, no odor.

Minor gravel @ 18' ($\frac{1}{4}$ ")

Clay- Brown, stiff, dry, some medium to coarse sand, no stain, no odor.

Refusal at 20 feet.
Groundwater not encountered.

Notes:

- ▼ First encountered groundwater
- ▽ Static groundwater

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APPENDIX D

ANALYTICAL LABORATORY REPORTS AND CHAIN-OF CUSTODYS



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507427 **Amended:** 07/24/2015

Report Created for: Padre Associates. Inc.

555 University Ave., Suite 110
Sacramento, CA 95825

Project Contact: Alan J. Klein

Project P.O.:

Project Name: #1401-2171; CUPERTINO (SEDGWICK PEA)

Project Received: 07/13/2015

Analytical Report reviewed & approved for release on 07/22/2015 by:

Angela Rydelius,
Laboratory 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 the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Padre Associates. Inc.
Project: #1401-2171; CUPERTINO (SEDGWICK PEA)
WorkOrder: 1507427

Glossary Abbreviation

95% Interval	95% Confident Interval
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)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
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.
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
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

J Result is less than the RL but greater than the MDL. The reported concentration is an estimated value.

Quality Control Qualifiers

F1 MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-4 (SURF)	1507427-007A	Soil	07/09/2015 12:44	GC22	107573

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/21/2015 11:37
a-BHC	ND	0.00010	0.0010	1	07/21/2015 11:37
b-BHC	ND	0.00025	0.0010	1	07/21/2015 11:37
d-BHC	ND	0.00037	0.0010	1	07/21/2015 11:37
g-BHC	ND	0.000097	0.0010	1	07/21/2015 11:37
Chlordane (Technical)	2.9	0.16	0.25	10	07/21/2015 20:46
a-Chlordane	0.32	0.0047	0.010	10	07/21/2015 20:46
g-Chlordane	0.20	0.0021	0.010	10	07/21/2015 20:46
p,p-DDD	ND	0.00014	0.0010	1	07/21/2015 11:37
p,p-DDE	0.14	0.0032	0.010	10	07/21/2015 20:46
p,p-DDT	0.13	0.0043	0.010	10	07/21/2015 20:46
Dieldrin	ND	0.00033	0.0010	1	07/21/2015 11:37
Endosulfan I	ND	0.00065	0.0010	1	07/21/2015 11:37
Endosulfan II	ND	0.00020	0.0010	1	07/21/2015 11:37
Endosulfan sulfate	ND	0.00063	0.0010	1	07/21/2015 11:37
Endrin	ND	0.00042	0.0010	1	07/21/2015 11:37
Endrin aldehyde	ND	0.00020	0.0010	1	07/21/2015 11:37
Endrin ketone	ND	0.00013	0.0010	1	07/21/2015 11:37
Heptachlor	ND	0.00021	0.0010	1	07/21/2015 11:37
Heptachlor epoxide	0.0074	0.00020	0.0010	1	07/21/2015 11:37
Hexachlorobenzene	ND	0.00027	0.010	1	07/21/2015 11:37
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/21/2015 11:37
Methoxychlor	ND	0.00089	0.0010	1	07/21/2015 11:37
Toxaphene	ND	0.035	0.050	1	07/21/2015 11:37
Aroclor1016	ND	0.0051	0.050	1	07/21/2015 11:37
Aroclor1221	ND	0.011	0.050	1	07/21/2015 11:37
Aroclor1232	ND	0.0063	0.050	1	07/21/2015 11:37
Aroclor1242	ND	0.0067	0.050	1	07/21/2015 11:37
Aroclor1248	ND	0.0040	0.050	1	07/21/2015 11:37
Aroclor1254	ND	0.0068	0.050	1	07/21/2015 11:37
Aroclor1260	ND	0.0061	0.050	1	07/21/2015 11:37
PCBs, total	ND	0.0040	0.050	1	07/21/2015 11:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	124	70-130	07/21/2015 20:46

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-9 (SURF)	1507427-017A	Soil	07/09/2015 14:20	GC22	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/24/2015 07:01
a-BHC	ND	0.00010	0.0010	1	07/24/2015 07:01
b-BHC	ND	0.00025	0.0010	1	07/24/2015 07:01
d-BHC	ND	0.00037	0.0010	1	07/24/2015 07:01
g-BHC	ND	0.000097	0.0010	1	07/24/2015 07:01
Chlordane (Technical)	2.1	0.16	0.25	10	07/20/2015 14:15
a-Chlordane	0.25	0.0047	0.010	10	07/20/2015 14:15
g-Chlordane	0.17	0.0021	0.010	10	07/20/2015 14:15
p,p-DDD	ND	0.00014	0.0010	1	07/24/2015 07:01
p,p-DDE	0.053	0.0032	0.010	10	07/20/2015 14:15
p,p-DDT	0.12	0.0043	0.010	10	07/20/2015 14:15
Dieldrin	ND	0.00033	0.0010	1	07/24/2015 07:01
Endosulfan I	ND	0.00065	0.0010	1	07/24/2015 07:01
Endosulfan II	ND	0.00020	0.0010	1	07/24/2015 07:01
Endosulfan sulfate	ND	0.00063	0.0010	1	07/24/2015 07:01
Endrin	ND	0.00042	0.0010	1	07/24/2015 07:01
Endrin aldehyde	ND	0.00020	0.0010	1	07/24/2015 07:01
Endrin ketone	ND	0.00013	0.0010	1	07/24/2015 07:01
Heptachlor	ND	0.00021	0.0010	1	07/24/2015 07:01
Heptachlor epoxide	0.013	0.0020	0.010	10	07/20/2015 14:15
Hexachlorobenzene	ND	0.00027	0.010	1	07/24/2015 07:01
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/24/2015 07:01
Methoxychlor	ND	0.00089	0.0010	1	07/24/2015 07:01
Toxaphene	ND	0.035	0.050	1	07/24/2015 07:01
Aroclor1016	ND	0.0051	0.050	1	07/24/2015 07:01
Aroclor1221	ND	0.011	0.050	1	07/24/2015 07:01
Aroclor1232	ND	0.0063	0.050	1	07/24/2015 07:01
Aroclor1242	ND	0.0067	0.050	1	07/24/2015 07:01
Aroclor1248	ND	0.0040	0.050	1	07/24/2015 07:01
Aroclor1254	ND	0.0068	0.050	1	07/24/2015 07:01
Aroclor1260	ND	0.0061	0.050	1	07/24/2015 07:01
PCBs, total	ND	0.0040	0.050	1	07/24/2015 07:01

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	122	70-130	07/20/2015 14:15

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-10 (SURF)	1507427-019A	Soil	07/09/2015 14:41	GC22	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/22/2015 00:09
a-BHC	ND	0.00010	0.0010	1	07/22/2015 00:09
b-BHC	ND	0.00025	0.0010	1	07/22/2015 00:09
d-BHC	ND	0.00037	0.0010	1	07/22/2015 00:09
g-BHC	ND	0.000097	0.0010	1	07/22/2015 00:09
Chlordane (Technical)	13	0.16	0.25	10	07/21/2015 23:01
a-Chlordane	1.5	0.0047	0.010	10	07/21/2015 23:01
g-Chlordane	1.5	0.0021	0.010	10	07/21/2015 23:01
p,p-DDD	ND	0.00014	0.0010	1	07/22/2015 00:09
p,p-DDE	0.039	0.0032	0.010	10	07/21/2015 23:01
p,p-DDT	0.16	0.0043	0.010	10	07/21/2015 23:01
Dieldrin	ND	0.00033	0.0010	1	07/22/2015 00:09
Endosulfan I	ND	0.00065	0.0010	1	07/22/2015 00:09
Endosulfan II	ND	0.00020	0.0010	1	07/22/2015 00:09
Endosulfan sulfate	ND	0.00063	0.0010	1	07/22/2015 00:09
Endrin	ND	0.00042	0.0010	1	07/22/2015 00:09
Endrin aldehyde	ND	0.00020	0.0010	1	07/22/2015 00:09
Endrin ketone	ND	0.00013	0.0010	1	07/22/2015 00:09
Heptachlor	0.021	0.0021	0.010	10	07/21/2015 23:01
Heptachlor epoxide	0.057	0.0020	0.010	10	07/21/2015 23:01
Hexachlorobenzene	ND	0.00027	0.010	1	07/22/2015 00:09
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/22/2015 00:09
Methoxychlor	ND	0.00089	0.0010	1	07/22/2015 00:09
Toxaphene	ND	0.035	0.050	1	07/22/2015 00:09
Aroclor1016	ND	0.0051	0.050	1	07/22/2015 00:09
Aroclor1221	ND	0.011	0.050	1	07/22/2015 00:09
Aroclor1232	ND	0.0063	0.050	1	07/22/2015 00:09
Aroclor1242	ND	0.0067	0.050	1	07/22/2015 00:09
Aroclor1248	ND	0.0040	0.050	1	07/22/2015 00:09
Aroclor1254	ND	0.0068	0.050	1	07/22/2015 00:09
Aroclor1260	ND	0.0061	0.050	1	07/22/2015 00:09
PCBs, total	ND	0.0040	0.050	1	07/22/2015 00:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	129	70-130	07/21/2015 23:01

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-11 (SURF)	1507427-021A	Soil	07/09/2015 15:06	GC22	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/20/2015 12:31
a-BHC	ND	0.00010	0.0010	1	07/20/2015 12:31
b-BHC	ND	0.00025	0.0010	1	07/20/2015 12:31
d-BHC	ND	0.00037	0.0010	1	07/20/2015 12:31
g-BHC	ND	0.000097	0.0010	1	07/20/2015 12:31
Chlordane (Technical)	0.93	0.16	0.25	10	07/21/2015 01:11
a-Chlordane	0.11	0.0047	0.010	10	07/21/2015 01:11
g-Chlordane	0.081	0.0021	0.010	10	07/21/2015 01:11
p,p-DDD	ND	0.00014	0.0010	1	07/20/2015 12:31
p,p-DDE	0.035	0.0032	0.010	10	07/21/2015 01:11
p,p-DDT	0.093	0.0043	0.010	10	07/21/2015 01:11
Dieldrin	ND	0.00033	0.0010	1	07/20/2015 12:31
Endosulfan I	ND	0.00065	0.0010	1	07/20/2015 12:31
Endosulfan II	ND	0.00020	0.0010	1	07/20/2015 12:31
Endosulfan sulfate	ND	0.00063	0.0010	1	07/20/2015 12:31
Endrin	ND	0.00042	0.0010	1	07/20/2015 12:31
Endrin aldehyde	ND	0.00020	0.0010	1	07/20/2015 12:31
Endrin ketone	ND	0.00013	0.0010	1	07/20/2015 12:31
Heptachlor	ND	0.00021	0.0010	1	07/20/2015 12:31
Heptachlor epoxide	0.0040	0.00020	0.0010	1	07/20/2015 12:31
Hexachlorobenzene	ND	0.00027	0.010	1	07/20/2015 12:31
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/20/2015 12:31
Methoxychlor	ND	0.00089	0.0010	1	07/20/2015 12:31
Toxaphene	ND	0.035	0.050	1	07/20/2015 12:31
Aroclor1016	ND	0.0051	0.050	1	07/20/2015 12:31
Aroclor1221	ND	0.011	0.050	1	07/20/2015 12:31
Aroclor1232	ND	0.0063	0.050	1	07/20/2015 12:31
Aroclor1242	ND	0.0067	0.050	1	07/20/2015 12:31
Aroclor1248	ND	0.0040	0.050	1	07/20/2015 12:31
Aroclor1254	ND	0.0068	0.050	1	07/20/2015 12:31
Aroclor1260	ND	0.0061	0.050	1	07/20/2015 12:31
PCBs, total	ND	0.0040	0.050	1	07/20/2015 12:31

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	122	70-130	07/21/2015 01:11

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-14 (SURF)	1507427-027A	Soil	07/10/2015 08:28	GC23	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/18/2015 09:35
a-BHC	ND		0.00010	0.0010	1	07/18/2015 09:35
b-BHC	ND		0.00025	0.0010	1	07/18/2015 09:35
d-BHC	ND		0.00037	0.0010	1	07/18/2015 09:35
g-BHC	ND		0.000097	0.0010	1	07/18/2015 09:35
Chlordane (Technical)	0.060		0.016	0.025	1	07/18/2015 09:35
a-Chlordane	0.0067		0.00047	0.0010	1	07/18/2015 09:35
g-Chlordane	0.0040		0.00021	0.0010	1	07/18/2015 09:35
p,p-DDD	0.0022		0.00014	0.0010	1	07/18/2015 09:35
p,p-DDE	0.097		0.00032	0.0010	1	07/18/2015 09:35
p,p-DDT	0.061		0.00043	0.0010	1	07/18/2015 09:35
Dieldrin	ND		0.00033	0.0010	1	07/18/2015 09:35
Endosulfan I	ND		0.00065	0.0010	1	07/18/2015 09:35
Endosulfan II	ND		0.00020	0.0010	1	07/18/2015 09:35
Endosulfan sulfate	ND		0.00063	0.0010	1	07/18/2015 09:35
Endrin	ND		0.00042	0.0010	1	07/18/2015 09:35
Endrin aldehyde	ND		0.00020	0.0010	1	07/18/2015 09:35
Endrin ketone	ND		0.00013	0.0010	1	07/18/2015 09:35
Heptachlor	0.00025	J	0.00021	0.0010	1	07/18/2015 09:35
Heptachlor epoxide	0.00071	J	0.00020	0.0010	1	07/18/2015 09:35
Hexachlorobenzene	ND		0.00027	0.010	1	07/18/2015 09:35
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/18/2015 09:35
Methoxychlor	ND		0.00089	0.0010	1	07/18/2015 09:35
Toxaphene	ND		0.035	0.050	1	07/18/2015 09:35
Aroclor1016	ND		0.0051	0.050	1	07/18/2015 09:35
Aroclor1221	ND		0.011	0.050	1	07/18/2015 09:35
Aroclor1232	ND		0.0063	0.050	1	07/18/2015 09:35
Aroclor1242	ND		0.0067	0.050	1	07/18/2015 09:35
Aroclor1248	ND		0.0040	0.050	1	07/18/2015 09:35
Aroclor1254	ND		0.0068	0.050	1	07/18/2015 09:35
Aroclor1260	ND		0.0061	0.050	1	07/18/2015 09:35
PCBs, total	ND		0.0040	0.050	1	07/18/2015 09:35

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	99	70-130	07/18/2015 09:35

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A/8082

Date Prepared: 7/13/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-15 (SURF)	1507427-029A	Soil	07/10/2015 08:00	GC22	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/20/2015 21:47
a-BHC	ND		0.00010	0.0010	1	07/20/2015 21:47
b-BHC	ND		0.00025	0.0010	1	07/20/2015 21:47
d-BHC	ND		0.00037	0.0010	1	07/20/2015 21:47
g-BHC	0.00049	J	0.000097	0.0010	1	07/20/2015 21:47
Chlordane (Technical)	1.5		0.16	0.25	10	07/21/2015 20:12
a-Chlordane	0.17		0.0047	0.010	10	07/21/2015 20:12
g-Chlordane	0.13		0.0021	0.010	10	07/21/2015 20:12
p,p-DDD	ND		0.00014	0.0010	1	07/20/2015 21:47
p,p-DDE	0.41		0.0032	0.010	10	07/21/2015 20:12
p,p-DDT	0.16		0.0043	0.010	10	07/21/2015 20:12
Dieldrin	0.0068		0.00033	0.0010	1	07/20/2015 21:47
Endosulfan I	ND		0.00065	0.0010	1	07/20/2015 21:47
Endosulfan II	ND		0.00020	0.0010	1	07/20/2015 21:47
Endosulfan sulfate	ND		0.00063	0.0010	1	07/20/2015 21:47
Endrin	ND		0.00042	0.0010	1	07/20/2015 21:47
Endrin aldehyde	ND		0.00020	0.0010	1	07/20/2015 21:47
Endrin ketone	ND		0.00013	0.0010	1	07/20/2015 21:47
Heptachlor	ND		0.00021	0.0010	1	07/20/2015 21:47
Heptachlor epoxide	0.011		0.0020	0.010	10	07/21/2015 20:12
Hexachlorobenzene	ND		0.00027	0.010	1	07/20/2015 21:47
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/20/2015 21:47
Methoxychlor	ND		0.00089	0.0010	1	07/20/2015 21:47
Toxaphene	ND		0.035	0.050	1	07/20/2015 21:47
Aroclor1016	ND		0.0051	0.050	1	07/20/2015 21:47
Aroclor1221	ND		0.011	0.050	1	07/20/2015 21:47
Aroclor1232	ND		0.0063	0.050	1	07/20/2015 21:47
Aroclor1242	ND		0.0067	0.050	1	07/20/2015 21:47
Aroclor1248	ND		0.0040	0.050	1	07/20/2015 21:47
Aroclor1254	ND		0.0068	0.050	1	07/20/2015 21:47
Aroclor1260	ND		0.0061	0.050	1	07/20/2015 21:47
PCBs, total	ND		0.0040	0.050	1	07/20/2015 21:47

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	75	70-130	07/21/2015 20:12

Analyst(s): CK



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-1 (SURF)	1507427-001A	Soil	07/09/2015 11:56	GC22	107573
<u>Analytes</u>	<u>Result</u>	<u>MDL</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Aldrin	ND	0.0027	0.010	10	07/21/2015 21:19
a-BHC	ND	0.0010	0.010	10	07/21/2015 21:19
b-BHC	ND	0.0025	0.010	10	07/21/2015 21:19
d-BHC	ND	0.0037	0.010	10	07/21/2015 21:19
g-BHC	ND	0.00097	0.010	10	07/21/2015 21:19
Chlordane (Technical)	3.7	0.16	0.25	10	07/21/2015 21:19
a-Chlordane	0.42	0.0047	0.010	10	07/21/2015 21:19
g-Chlordane	0.23	0.0021	0.010	10	07/21/2015 21:19
p,p-DDD	ND	0.0014	0.010	10	07/21/2015 21:19
p,p-DDE	0.35	0.0032	0.010	10	07/21/2015 21:19
p,p-DDT	0.26	0.0043	0.010	10	07/21/2015 21:19
Dieldrin	ND	0.0033	0.010	10	07/21/2015 21:19
Endosulfan I	ND	0.0065	0.010	10	07/21/2015 21:19
Endosulfan II	ND	0.0020	0.010	10	07/21/2015 21:19
Endosulfan sulfate	ND	0.0063	0.010	10	07/21/2015 21:19
Endrin	ND	0.0097	0.010	10	07/21/2015 21:19
Endrin aldehyde	ND	0.0020	0.010	10	07/21/2015 21:19
Endrin ketone	ND	0.0013	0.010	10	07/21/2015 21:19
Heptachlor	ND	0.0021	0.010	10	07/21/2015 21:19
Heptachlor epoxide	0.023	0.0020	0.010	10	07/21/2015 21:19
Hexachlorobenzene	ND	0.0027	0.10	10	07/21/2015 21:19
Hexachlorocyclopentadiene	ND	0.0040	0.20	10	07/21/2015 21:19
Methoxychlor	ND	0.0089	0.010	10	07/21/2015 21:19
Toxaphene	ND	0.35	0.50	10	07/21/2015 21:19
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>			
Decachlorobiphenyl	121	70-130			07/21/2015 21:19
Analyst(s): CK					

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-1 (SURF) DUP	1507427-001B	Soil	07/09/2015 11:56	GC22	107573

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.0054	0.020	20	07/20/2015 16:34
a-BHC	ND	0.0020	0.020	20	07/20/2015 16:34
b-BHC	ND	0.0050	0.020	20	07/20/2015 16:34
d-BHC	ND	0.0074	0.020	20	07/20/2015 16:34
g-BHC	ND	0.0019	0.020	20	07/20/2015 16:34
Chlordane (Technical)	2.8	0.32	0.50	20	07/20/2015 16:34
a-Chlordane	0.34	0.0094	0.020	20	07/20/2015 16:34
g-Chlordane	0.19	0.0042	0.020	20	07/20/2015 16:34
p,p-DDD	ND	0.0028	0.020	20	07/20/2015 16:34
p,p-DDE	0.29	0.0064	0.020	20	07/20/2015 16:34
p,p-DDT	0.21	0.0086	0.020	20	07/20/2015 16:34
Dieldrin	ND	0.0066	0.020	20	07/20/2015 16:34
Endosulfan I	ND	0.013	0.020	20	07/20/2015 16:34
Endosulfan II	ND	0.0040	0.020	20	07/20/2015 16:34
Endosulfan sulfate	ND	0.013	0.020	20	07/20/2015 16:34
Endrin	ND	0.0084	0.020	20	07/20/2015 16:34
Endrin aldehyde	ND	0.0040	0.020	20	07/20/2015 16:34
Endrin ketone	ND	0.0026	0.020	20	07/20/2015 16:34
Heptachlor	ND	0.0042	0.020	20	07/20/2015 16:34
Heptachlor epoxide	0.031	0.0040	0.020	20	07/20/2015 16:34
Hexachlorobenzene	ND	0.0054	0.20	20	07/20/2015 16:34
Hexachlorocyclopentadiene	ND	0.0080	0.40	20	07/20/2015 16:34
Methoxychlor	ND	0.018	0.020	20	07/20/2015 16:34
Toxaphene	ND	0.70	1.0	20	07/20/2015 16:34

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	126	70-130	07/20/2015 16:34

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-1 (1-1.5')	1507427-002A	Soil	07/09/2015 11:59	GC22	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/21/2015 14:28
a-BHC	ND		0.00010	0.0010	1	07/21/2015 14:28
b-BHC	ND		0.00025	0.0010	1	07/21/2015 14:28
d-BHC	ND		0.00037	0.0010	1	07/21/2015 14:28
g-BHC	ND		0.000097	0.0010	1	07/21/2015 14:28
Chlordane (Technical)	0.087		0.016	0.025	1	07/21/2015 14:28
a-Chlordane	0.0094		0.00047	0.0010	1	07/21/2015 14:28
g-Chlordane	0.0053		0.00021	0.0010	1	07/21/2015 14:28
p,p-DDD	ND		0.00014	0.0010	1	07/21/2015 14:28
p,p-DDE	0.0095		0.00032	0.0010	1	07/21/2015 14:28
p,p-DDT	0.0059		0.00043	0.0010	1	07/21/2015 14:28
Dieldrin	ND		0.00033	0.0010	1	07/21/2015 14:28
Endosulfan I	ND		0.00065	0.0010	1	07/21/2015 14:28
Endosulfan II	ND		0.00020	0.0010	1	07/21/2015 14:28
Endosulfan sulfate	ND		0.00063	0.0010	1	07/21/2015 14:28
Endrin	ND		0.00042	0.0010	1	07/21/2015 14:28
Endrin aldehyde	ND		0.00020	0.0010	1	07/21/2015 14:28
Endrin ketone	ND		0.00013	0.0010	1	07/21/2015 14:28
Heptachlor	ND		0.00021	0.0010	1	07/21/2015 14:28
Heptachlor epoxide	0.00086	J	0.00020	0.0010	1	07/21/2015 14:28
Hexachlorobenzene	ND		0.00027	0.010	1	07/21/2015 14:28
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/21/2015 14:28
Methoxychlor	ND		0.00089	0.0010	1	07/21/2015 14:28
Toxaphene	ND		0.035	0.050	1	07/21/2015 14:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	70-130	07/21/2015 14:28

Analyst(s): CK

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-2 (SURF)	1507427-003A	Soil	07/09/2015 12:20	GC22	107573

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/21/2015 15:03
a-BHC	ND	0.00010	0.0010	1	07/21/2015 15:03
b-BHC	ND	0.00025	0.0010	1	07/21/2015 15:03
d-BHC	ND	0.00037	0.0010	1	07/21/2015 15:03
g-BHC	ND	0.000097	0.0010	1	07/21/2015 15:03
Chlordane (Technical)	0.12	0.016	0.025	1	07/21/2015 15:03
a-Chlordane	0.018	0.00047	0.0010	1	07/21/2015 15:03
g-Chlordane	0.0058	0.00021	0.0010	1	07/21/2015 15:03
p,p-DDD	ND	0.00014	0.0010	1	07/21/2015 15:03
p,p-DDE	0.077	0.00032	0.0010	1	07/21/2015 15:03
p,p-DDT	0.044	0.00043	0.0010	1	07/21/2015 15:03
Dieldrin	ND	0.00033	0.0010	1	07/21/2015 15:03
Endosulfan I	ND	0.00065	0.0010	1	07/21/2015 15:03
Endosulfan II	ND	0.00020	0.0010	1	07/21/2015 15:03
Endosulfan sulfate	ND	0.00063	0.0010	1	07/21/2015 15:03
Endrin	ND	0.00042	0.0010	1	07/21/2015 15:03
Endrin aldehyde	ND	0.00020	0.0010	1	07/21/2015 15:03
Endrin ketone	ND	0.00013	0.0010	1	07/21/2015 15:03
Heptachlor	ND	0.00021	0.0010	1	07/21/2015 15:03
Heptachlor epoxide	0.0048	0.00020	0.0010	1	07/21/2015 15:03
Hexachlorobenzene	ND	0.00027	0.010	1	07/21/2015 15:03
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/21/2015 15:03
Methoxychlor	ND	0.00089	0.0010	1	07/21/2015 15:03
Toxaphene	ND	0.035	0.050	1	07/21/2015 15:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	07/21/2015 15:03

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-2 (1-1.5')	1507427-004A	Soil	07/09/2015 12:25	GC22	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/21/2015 16:12
a-BHC	ND		0.00010	0.0010	1	07/21/2015 16:12
b-BHC	ND		0.00025	0.0010	1	07/21/2015 16:12
d-BHC	ND		0.00037	0.0010	1	07/21/2015 16:12
g-BHC	ND		0.000097	0.0010	1	07/21/2015 16:12
Chlordane (Technical)	ND		0.016	0.025	1	07/21/2015 16:12
a-Chlordane	ND		0.00047	0.0010	1	07/21/2015 16:12
g-Chlordane	ND		0.00021	0.0010	1	07/21/2015 16:12
p,p-DDD	ND		0.00014	0.0010	1	07/21/2015 16:12
p,p-DDE	0.00046	J	0.00032	0.0010	1	07/21/2015 16:12
p,p-DDT	ND		0.00043	0.0010	1	07/21/2015 16:12
Dieldrin	ND		0.00033	0.0010	1	07/21/2015 16:12
Endosulfan I	ND		0.00065	0.0010	1	07/21/2015 16:12
Endosulfan II	ND		0.00020	0.0010	1	07/21/2015 16:12
Endosulfan sulfate	ND		0.00063	0.0010	1	07/21/2015 16:12
Endrin	ND		0.00097	0.0010	1	07/21/2015 16:12
Endrin aldehyde	ND		0.00020	0.0010	1	07/21/2015 16:12
Endrin ketone	ND		0.00013	0.0010	1	07/21/2015 16:12
Heptachlor	ND		0.00021	0.0010	1	07/21/2015 16:12
Heptachlor epoxide	ND		0.00020	0.0010	1	07/21/2015 16:12
Hexachlorobenzene	ND		0.00027	0.010	1	07/21/2015 16:12
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/21/2015 16:12
Methoxychlor	ND		0.00089	0.0010	1	07/21/2015 16:12
Toxaphene	ND		0.035	0.050	1	07/21/2015 16:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	07/21/2015 16:12

Analyst(s): CK

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-3 (SURF)	1507427-005A	Soil	07/09/2015 12:26	GC22	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.0027	0.010	10	07/21/2015 22:28
a-BHC	ND		0.0010	0.010	10	07/21/2015 22:28
b-BHC	ND		0.0025	0.010	10	07/21/2015 22:28
d-BHC	ND		0.0037	0.010	10	07/21/2015 22:28
g-BHC	ND		0.00097	0.010	10	07/21/2015 22:28
Chlordane (Technical)	1.2		0.16	0.25	10	07/21/2015 22:28
a-Chlordane	0.13		0.0047	0.010	10	07/21/2015 22:28
g-Chlordane	0.092		0.0021	0.010	10	07/21/2015 22:28
p,p-DDD	ND		0.0014	0.010	10	07/21/2015 22:28
p,p-DDE	0.056		0.0032	0.010	10	07/21/2015 22:28
p,p-DDT	0.046		0.0043	0.010	10	07/21/2015 22:28
Dieldrin	ND		0.0033	0.010	10	07/21/2015 22:28
Endosulfan I	ND		0.0065	0.010	10	07/21/2015 22:28
Endosulfan II	ND		0.0020	0.010	10	07/21/2015 22:28
Endosulfan sulfate	ND		0.0063	0.010	10	07/21/2015 22:28
Endrin	ND		0.0097	0.010	10	07/21/2015 22:28
Endrin aldehyde	ND		0.0020	0.010	10	07/21/2015 22:28
Endrin ketone	ND		0.0013	0.010	10	07/21/2015 22:28
Heptachlor	ND		0.0021	0.010	10	07/21/2015 22:28
Heptachlor epoxide	0.0040	J	0.0020	0.010	10	07/21/2015 22:28
Hexachlorobenzene	ND		0.0027	0.10	10	07/21/2015 22:28
Hexachlorocyclopentadiene	ND		0.0040	0.20	10	07/21/2015 22:28
Methoxychlor	ND		0.0089	0.010	10	07/21/2015 22:28
Toxaphene	ND		0.35	0.50	10	07/21/2015 22:28

Surrogates	REC (%)	Limits
Decachlorobiphenyl	103	70-130

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-3 (1-1.5')	1507427-006A	Soil	07/09/2015 12:30	GC40	107573

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/16/2015 00:20
a-BHC	ND	0.00010	0.0010	1	07/16/2015 00:20
b-BHC	ND	0.00025	0.0010	1	07/16/2015 00:20
d-BHC	ND	0.00037	0.0010	1	07/16/2015 00:20
g-BHC	ND	0.000097	0.0010	1	07/16/2015 00:20
Chlordane (Technical)	0.22	0.016	0.025	1	07/16/2015 00:20
a-Chlordane	0.020	0.00047	0.0010	1	07/16/2015 00:20
g-Chlordane	0.020	0.00021	0.0010	1	07/16/2015 00:20
p,p-DDD	ND	0.00014	0.0010	1	07/16/2015 00:20
p,p-DDE	0.0065	0.00032	0.0010	1	07/16/2015 00:20
p,p-DDT	0.0082	0.00043	0.0010	1	07/16/2015 00:20
Dieldrin	ND	0.00033	0.0010	1	07/16/2015 00:20
Endosulfan I	ND	0.00065	0.0010	1	07/16/2015 00:20
Endosulfan II	ND	0.00020	0.0010	1	07/16/2015 00:20
Endosulfan sulfate	ND	0.00063	0.0010	1	07/16/2015 00:20
Endrin	ND	0.00042	0.0010	1	07/16/2015 00:20
Endrin aldehyde	ND	0.00020	0.0010	1	07/16/2015 00:20
Endrin ketone	ND	0.00013	0.0010	1	07/16/2015 00:20
Heptachlor	ND	0.00021	0.0010	1	07/16/2015 00:20
Heptachlor epoxide	ND	0.00020	0.0010	1	07/16/2015 00:20
Hexachlorobenzene	ND	0.00027	0.010	1	07/16/2015 00:20
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/16/2015 00:20
Methoxychlor	ND	0.00089	0.0010	1	07/16/2015 00:20
Toxaphene	ND	0.035	0.050	1	07/16/2015 00:20

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	07/16/2015 00:20

Analyst(s): SS

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-4 (1-1.5')	1507427-008A	Soil	07/09/2015 13:02	GC22	107728

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.0027	0.010	10	07/20/2015 17:09
a-BHC	ND		0.0010	0.010	10	07/20/2015 17:09
b-BHC	ND		0.0025	0.010	10	07/20/2015 17:09
d-BHC	ND		0.0037	0.010	10	07/20/2015 17:09
g-BHC	ND		0.00097	0.010	10	07/20/2015 17:09
Chlordane (Technical)	1.1		0.16	0.25	10	07/20/2015 17:09
a-Chlordane	0.13		0.0047	0.010	10	07/20/2015 17:09
g-Chlordane	0.079		0.0021	0.010	10	07/20/2015 17:09
p,p-DDD	ND		0.0014	0.010	10	07/20/2015 17:09
p,p-DDE	0.044		0.0032	0.010	10	07/20/2015 17:09
p,p-DDT	0.038		0.0043	0.010	10	07/20/2015 17:09
Dieldrin	ND		0.0033	0.010	10	07/20/2015 17:09
Endosulfan I	ND		0.0065	0.010	10	07/20/2015 17:09
Endosulfan II	ND		0.0020	0.010	10	07/20/2015 17:09
Endosulfan sulfate	ND		0.0063	0.010	10	07/20/2015 17:09
Endrin	ND		0.0042	0.010	10	07/20/2015 17:09
Endrin aldehyde	ND		0.0020	0.010	10	07/20/2015 17:09
Endrin ketone	ND		0.0013	0.010	10	07/20/2015 17:09
Heptachlor	ND		0.0021	0.010	10	07/20/2015 17:09
Heptachlor epoxide	0.0078	J	0.0020	0.010	10	07/20/2015 17:09
Hexachlorobenzene	ND		0.0027	0.10	10	07/20/2015 17:09
Hexachlorocyclopentadiene	ND		0.0040	0.20	10	07/20/2015 17:09
Methoxychlor	ND		0.0089	0.010	10	07/20/2015 17:09
Toxaphene	ND		0.35	0.50	10	07/20/2015 17:09

Surrogates	REC (%)	Limits
Decachlorobiphenyl	129	70-130

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-5 (SURF)	1507427-009A	Soil	07/09/2015 13:14	GC23	107728

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/18/2015 07:43
a-BHC	ND		0.00010	0.0010	1	07/18/2015 07:43
b-BHC	ND		0.00025	0.0010	1	07/18/2015 07:43
d-BHC	ND		0.00037	0.0010	1	07/18/2015 07:43
g-BHC	ND		0.000097	0.0010	1	07/18/2015 07:43
Chlordane (Technical)	0.063		0.016	0.025	1	07/18/2015 07:43
a-Chlordane	0.0055		0.00047	0.0010	1	07/18/2015 07:43
g-Chlordane	0.0023		0.00021	0.0010	1	07/18/2015 07:43
p,p-DDD	0.00076	J	0.00014	0.0010	1	07/18/2015 07:43
p,p-DDE	0.024		0.00032	0.0010	1	07/18/2015 07:43
p,p-DDT	0.024		0.00043	0.0010	1	07/18/2015 07:43
Dieldrin	ND		0.00033	0.0010	1	07/18/2015 07:43
Endosulfan I	ND		0.00065	0.0010	1	07/18/2015 07:43
Endosulfan II	ND		0.00020	0.0010	1	07/18/2015 07:43
Endosulfan sulfate	ND		0.00063	0.0010	1	07/18/2015 07:43
Endrin	ND		0.00042	0.0010	1	07/18/2015 07:43
Endrin aldehyde	ND		0.00020	0.0010	1	07/18/2015 07:43
Endrin ketone	ND		0.00013	0.0010	1	07/18/2015 07:43
Heptachlor	ND		0.00021	0.0010	1	07/18/2015 07:43
Heptachlor epoxide	0.0016		0.00020	0.0010	1	07/18/2015 07:43
Hexachlorobenzene	ND		0.00027	0.010	1	07/18/2015 07:43
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/18/2015 07:43
Methoxychlor	ND		0.00089	0.0010	1	07/18/2015 07:43
Toxaphene	ND		0.035	0.050	1	07/18/2015 07:43

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	07/18/2015 07:43

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-5 (1-1.5')	1507427-010A	Soil	07/09/2015 13:20	GC40	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/16/2015 04:29
a-BHC	ND		0.00010	0.0010	1	07/16/2015 04:29
b-BHC	ND		0.00025	0.0010	1	07/16/2015 04:29
d-BHC	ND		0.00037	0.0010	1	07/16/2015 04:29
g-BHC	ND		0.000097	0.0010	1	07/16/2015 04:29
Chlordane (Technical)	ND		0.016	0.025	1	07/16/2015 04:29
a-Chlordane	0.0014		0.00047	0.0010	1	07/16/2015 04:29
g-Chlordane	0.00054	J	0.00021	0.0010	1	07/16/2015 04:29
p,p-DDD	ND		0.00014	0.0010	1	07/16/2015 04:29
p,p-DDE	0.00093	J	0.00032	0.0010	1	07/16/2015 04:29
p,p-DDT	0.0011		0.00043	0.0010	1	07/16/2015 04:29
Dieldrin	ND		0.00033	0.0010	1	07/16/2015 04:29
Endosulfan I	ND		0.00065	0.0010	1	07/16/2015 04:29
Endosulfan II	ND		0.00020	0.0010	1	07/16/2015 04:29
Endosulfan sulfate	ND		0.00063	0.0010	1	07/16/2015 04:29
Endrin	ND		0.00042	0.0010	1	07/16/2015 04:29
Endrin aldehyde	ND		0.00020	0.0010	1	07/16/2015 04:29
Endrin ketone	ND		0.00013	0.0010	1	07/16/2015 04:29
Heptachlor	ND		0.00021	0.0010	1	07/16/2015 04:29
Heptachlor epoxide	ND		0.00020	0.0010	1	07/16/2015 04:29
Hexachlorobenzene	ND		0.00027	0.010	1	07/16/2015 04:29
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/16/2015 04:29
Methoxychlor	ND		0.00089	0.0010	1	07/16/2015 04:29
Toxaphene	ND		0.035	0.050	1	07/16/2015 04:29

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	07/16/2015 04:29

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-6 (SURF)	1507427-011A	Soil	07/09/2015 13:33	GC22	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.0027	0.010	10	07/20/2015 15:25
a-BHC	ND		0.0010	0.010	10	07/20/2015 15:25
b-BHC	ND		0.0025	0.010	10	07/20/2015 15:25
d-BHC	ND		0.0037	0.010	10	07/20/2015 15:25
g-BHC	ND		0.00097	0.010	10	07/20/2015 15:25
Chlordane (Technical)	3.4		0.16	0.25	10	07/20/2015 15:25
a-Chlordane	0.39		0.0047	0.010	10	07/20/2015 15:25
g-Chlordane	0.28		0.0021	0.010	10	07/20/2015 15:25
p,p-DDD	ND		0.0014	0.010	10	07/20/2015 15:25
p,p-DDE	0.12		0.0032	0.010	10	07/20/2015 15:25
p,p-DDT	0.21		0.0043	0.010	10	07/20/2015 15:25
Dieldrin	ND		0.0033	0.010	10	07/20/2015 15:25
Endosulfan I	ND		0.0065	0.010	10	07/20/2015 15:25
Endosulfan II	ND		0.0020	0.010	10	07/20/2015 15:25
Endosulfan sulfate	ND		0.0063	0.010	10	07/20/2015 15:25
Endrin	ND		0.0042	0.010	10	07/20/2015 15:25
Endrin aldehyde	ND		0.0020	0.010	10	07/20/2015 15:25
Endrin ketone	ND		0.0013	0.010	10	07/20/2015 15:25
Heptachlor	ND		0.0021	0.010	10	07/20/2015 15:25
Heptachlor epoxide	0.0060	J	0.0020	0.010	10	07/20/2015 15:25
Hexachlorobenzene	ND		0.0027	0.10	10	07/20/2015 15:25
Hexachlorocyclopentadiene	ND		0.0040	0.20	10	07/20/2015 15:25
Methoxychlor	ND		0.0089	0.010	10	07/20/2015 15:25
Toxaphene	ND		0.35	0.50	10	07/20/2015 15:25

Surrogates	REC (%)	Limits
Decachlorobiphenyl	130	70-130

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-6 (1-1.5')	1507427-012A	Soil	07/09/2015 13:37	GC23	107728

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/18/2015 07:06
a-BHC	ND		0.00010	0.0010	1	07/18/2015 07:06
b-BHC	ND		0.00025	0.0010	1	07/18/2015 07:06
d-BHC	ND		0.00037	0.0010	1	07/18/2015 07:06
g-BHC	ND		0.000097	0.0010	1	07/18/2015 07:06
Chlordane (Technical)	ND		0.016	0.025	1	07/18/2015 07:06
a-Chlordane	0.00094	J	0.00047	0.0010	1	07/18/2015 07:06
g-Chlordane	0.00073	J	0.00021	0.0010	1	07/18/2015 07:06
p,p-DDD	ND		0.00014	0.0010	1	07/18/2015 07:06
p,p-DDE	ND		0.00032	0.0010	1	07/18/2015 07:06
p,p-DDT	ND		0.00043	0.0010	1	07/18/2015 07:06
Dieldrin	ND		0.00033	0.0010	1	07/18/2015 07:06
Endosulfan I	ND		0.00065	0.0010	1	07/18/2015 07:06
Endosulfan II	ND		0.00020	0.0010	1	07/18/2015 07:06
Endosulfan sulfate	ND		0.00063	0.0010	1	07/18/2015 07:06
Endrin	ND		0.00042	0.0010	1	07/18/2015 07:06
Endrin aldehyde	ND		0.00020	0.0010	1	07/18/2015 07:06
Endrin ketone	ND		0.00013	0.0010	1	07/18/2015 07:06
Heptachlor	ND		0.00021	0.0010	1	07/18/2015 07:06
Heptachlor epoxide	ND		0.00020	0.0010	1	07/18/2015 07:06
Hexachlorobenzene	ND		0.00027	0.010	1	07/18/2015 07:06
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/18/2015 07:06
Methoxychlor	ND		0.00089	0.0010	1	07/18/2015 07:06
Toxaphene	ND		0.035	0.050	1	07/18/2015 07:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	07/18/2015 07:06

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-7 (SURF)	1507427-013A	Soil	07/09/2015 13:52	GC22	107573

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.0027	0.010	10	07/20/2015 16:00
a-BHC	ND	0.0010	0.010	10	07/20/2015 16:00
b-BHC	ND	0.0025	0.010	10	07/20/2015 16:00
d-BHC	ND	0.0037	0.010	10	07/20/2015 16:00
g-BHC	ND	0.00097	0.010	10	07/20/2015 16:00
Chlordane (Technical)	1.9	0.16	0.25	10	07/20/2015 16:00
a-Chlordane	0.25	0.0047	0.010	10	07/20/2015 16:00
g-Chlordane	0.15	0.0021	0.010	10	07/20/2015 16:00
p,p-DDD	ND	0.0014	0.010	10	07/20/2015 16:00
p,p-DDE	0.12	0.0032	0.010	10	07/20/2015 16:00
p,p-DDT	0.11	0.0043	0.010	10	07/20/2015 16:00
Dieldrin	ND	0.0033	0.010	10	07/20/2015 16:00
Endosulfan I	ND	0.0065	0.010	10	07/20/2015 16:00
Endosulfan II	ND	0.0020	0.010	10	07/20/2015 16:00
Endosulfan sulfate	ND	0.0063	0.010	10	07/20/2015 16:00
Endrin	ND	0.0042	0.010	10	07/20/2015 16:00
Endrin aldehyde	ND	0.0020	0.010	10	07/20/2015 16:00
Endrin ketone	ND	0.0013	0.010	10	07/20/2015 16:00
Heptachlor	ND	0.0021	0.010	10	07/20/2015 16:00
Heptachlor epoxide	0.026	0.0020	0.010	10	07/20/2015 16:00
Hexachlorobenzene	ND	0.0027	0.10	10	07/20/2015 16:00
Hexachlorocyclopentadiene	ND	0.0040	0.20	10	07/20/2015 16:00
Methoxychlor	ND	0.0089	0.010	10	07/20/2015 16:00
Toxaphene	ND	0.35	0.50	10	07/20/2015 16:00

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	122	70-130	07/20/2015 16:00

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-7 (1-1.5')	1507427-014A	Soil	07/09/2015 13:55	GC40	107573

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/16/2015 06:50
a-BHC	ND		0.00010	0.0010	1	07/16/2015 06:50
b-BHC	ND		0.00025	0.0010	1	07/16/2015 06:50
d-BHC	ND		0.00037	0.0010	1	07/16/2015 06:50
g-BHC	ND		0.000097	0.0010	1	07/16/2015 06:50
Chlordane (Technical)	ND		0.016	0.025	1	07/16/2015 06:50
a-Chlordane	0.0014		0.00047	0.0010	1	07/16/2015 06:50
g-Chlordane	0.00054	J	0.00021	0.0010	1	07/16/2015 06:50
p,p-DDD	ND		0.00014	0.0010	1	07/16/2015 06:50
p,p-DDE	0.0014		0.00032	0.0010	1	07/16/2015 06:50
p,p-DDT	0.0011		0.00043	0.0010	1	07/16/2015 06:50
Dieldrin	ND		0.00033	0.0010	1	07/16/2015 06:50
Endosulfan I	ND		0.00065	0.0010	1	07/16/2015 06:50
Endosulfan II	ND		0.00020	0.0010	1	07/16/2015 06:50
Endosulfan sulfate	ND		0.00063	0.0010	1	07/16/2015 06:50
Endrin	ND		0.00042	0.0010	1	07/16/2015 06:50
Endrin aldehyde	ND		0.00020	0.0010	1	07/16/2015 06:50
Endrin ketone	ND		0.00013	0.0010	1	07/16/2015 06:50
Heptachlor	ND		0.00021	0.0010	1	07/16/2015 06:50
Heptachlor epoxide	ND		0.00020	0.0010	1	07/16/2015 06:50
Hexachlorobenzene	ND		0.00027	0.010	1	07/16/2015 06:50
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/16/2015 06:50
Methoxychlor	ND		0.00089	0.0010	1	07/16/2015 06:50
Toxaphene	ND		0.035	0.050	1	07/16/2015 06:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	81	70-130	07/16/2015 06:50

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-8 (SURF)	1507427-015A	Soil	07/09/2015 14:07	GC40	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/15/2015 23:45
a-BHC	ND	0.00010	0.0010	1	07/15/2015 23:45
b-BHC	ND	0.00025	0.0010	1	07/15/2015 23:45
d-BHC	ND	0.00037	0.0010	1	07/15/2015 23:45
g-BHC	ND	0.000097	0.0010	1	07/15/2015 23:45
Chlordane (Technical)	0.057	0.016	0.025	1	07/15/2015 23:45
a-Chlordane	0.010	0.00047	0.0010	1	07/15/2015 23:45
g-Chlordane	0.0045	0.00021	0.0010	1	07/15/2015 23:45
p,p-DDD	ND	0.00014	0.0010	1	07/15/2015 23:45
p,p-DDE	0.014	0.00032	0.0010	1	07/15/2015 23:45
p,p-DDT	0.011	0.00043	0.0010	1	07/15/2015 23:45
Dieldrin	ND	0.00033	0.0010	1	07/15/2015 23:45
Endosulfan I	ND	0.00065	0.0010	1	07/15/2015 23:45
Endosulfan II	ND	0.00020	0.0010	1	07/15/2015 23:45
Endosulfan sulfate	ND	0.00063	0.0010	1	07/15/2015 23:45
Endrin	ND	0.00042	0.0010	1	07/15/2015 23:45
Endrin aldehyde	ND	0.00020	0.0010	1	07/15/2015 23:45
Endrin ketone	ND	0.00013	0.0010	1	07/15/2015 23:45
Heptachlor	ND	0.00021	0.0010	1	07/15/2015 23:45
Heptachlor epoxide	0.0033	0.00020	0.0010	1	07/15/2015 23:45
Hexachlorobenzene	ND	0.00027	0.010	1	07/15/2015 23:45
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/15/2015 23:45
Methoxychlor	ND	0.00089	0.0010	1	07/15/2015 23:45
Toxaphene	ND	0.035	0.050	1	07/15/2015 23:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	78	70-130	07/15/2015 23:45

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-8 (1-1.5')	1507427-016A	Soil	07/09/2015 14:09	GC40	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/16/2015 07:26
a-BHC	ND		0.00010	0.0010	1	07/16/2015 07:26
b-BHC	ND		0.00025	0.0010	1	07/16/2015 07:26
d-BHC	ND		0.00037	0.0010	1	07/16/2015 07:26
g-BHC	ND		0.000097	0.0010	1	07/16/2015 07:26
Chlordane (Technical)	ND		0.016	0.025	1	07/16/2015 07:26
a-Chlordane	ND		0.00047	0.0010	1	07/16/2015 07:26
g-Chlordane	0.00027	J	0.00021	0.0010	1	07/16/2015 07:26
p,p-DDD	0.0011		0.00014	0.0010	1	07/16/2015 07:26
p,p-DDE	0.0039		0.00032	0.0010	1	07/16/2015 07:26
p,p-DDT	0.0034		0.00043	0.0010	1	07/16/2015 07:26
Dieldrin	ND		0.00033	0.0010	1	07/16/2015 07:26
Endosulfan I	ND		0.00065	0.0010	1	07/16/2015 07:26
Endosulfan II	ND		0.00020	0.0010	1	07/16/2015 07:26
Endosulfan sulfate	ND		0.00063	0.0010	1	07/16/2015 07:26
Endrin	ND		0.00042	0.0010	1	07/16/2015 07:26
Endrin aldehyde	ND		0.00020	0.0010	1	07/16/2015 07:26
Endrin ketone	ND		0.00013	0.0010	1	07/16/2015 07:26
Heptachlor	ND		0.00021	0.0010	1	07/16/2015 07:26
Heptachlor epoxide	ND		0.00020	0.0010	1	07/16/2015 07:26
Hexachlorobenzene	ND		0.00027	0.010	1	07/16/2015 07:26
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/16/2015 07:26
Methoxychlor	ND		0.00089	0.0010	1	07/16/2015 07:26
Toxaphene	ND		0.035	0.050	1	07/16/2015 07:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	70	70-130	07/16/2015 07:26

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-9 (SURF) DUP	1507427-017B	Soil	07/09/2015 14:20	GC22	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.0027	0.010	10	07/21/2015 00:37
a-BHC	ND		0.0010	0.010	10	07/21/2015 00:37
b-BHC	ND		0.0025	0.010	10	07/21/2015 00:37
d-BHC	ND		0.0037	0.010	10	07/21/2015 00:37
g-BHC	ND		0.00097	0.010	10	07/21/2015 00:37
Chlordane (Technical)	1.8		0.16	0.25	10	07/21/2015 00:37
a-Chlordane	0.21		0.0047	0.010	10	07/21/2015 00:37
g-Chlordane	0.15		0.0021	0.010	10	07/21/2015 00:37
p,p-DDD	ND		0.0014	0.010	10	07/21/2015 00:37
p,p-DDE	0.047		0.0032	0.010	10	07/21/2015 00:37
p,p-DDT	0.12		0.0043	0.010	10	07/21/2015 00:37
Dieldrin	ND		0.0033	0.010	10	07/21/2015 00:37
Endosulfan I	ND		0.0065	0.010	10	07/21/2015 00:37
Endosulfan II	ND		0.0020	0.010	10	07/21/2015 00:37
Endosulfan sulfate	ND		0.0063	0.010	10	07/21/2015 00:37
Endrin	ND		0.0042	0.010	10	07/21/2015 00:37
Endrin aldehyde	ND		0.0020	0.010	10	07/21/2015 00:37
Endrin ketone	ND		0.0013	0.010	10	07/21/2015 00:37
Heptachlor	ND		0.0021	0.010	10	07/21/2015 00:37
Heptachlor epoxide	0.0083	J	0.0020	0.010	10	07/21/2015 00:37
Hexachlorobenzene	ND		0.0027	0.10	10	07/21/2015 00:37
Hexachlorocyclopentadiene	ND		0.0040	0.20	10	07/21/2015 00:37
Methoxychlor	ND		0.0089	0.010	10	07/21/2015 00:37
Toxaphene	ND		0.35	0.50	10	07/21/2015 00:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	07/21/2015 00:37

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-9 (1-1.5')	1507427-018A	Soil	07/09/2015 14:24	GC23	107728

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/18/2015 06:28
a-BHC	ND		0.00010	0.0010	1	07/18/2015 06:28
b-BHC	ND		0.00025	0.0010	1	07/18/2015 06:28
d-BHC	ND		0.00037	0.0010	1	07/18/2015 06:28
g-BHC	ND		0.000097	0.0010	1	07/18/2015 06:28
Chlordane (Technical)	0.038		0.016	0.025	1	07/18/2015 06:28
a-Chlordane	0.0032		0.00047	0.0010	1	07/18/2015 06:28
g-Chlordane	0.0024		0.00021	0.0010	1	07/18/2015 06:28
p,p-DDD	0.00035	J	0.00014	0.0010	1	07/18/2015 06:28
p,p-DDE	0.0039		0.00032	0.0010	1	07/18/2015 06:28
p,p-DDT	0.012		0.00043	0.0010	1	07/18/2015 06:28
Dieldrin	ND		0.00033	0.0010	1	07/18/2015 06:28
Endosulfan I	ND		0.00065	0.0010	1	07/18/2015 06:28
Endosulfan II	ND		0.00020	0.0010	1	07/18/2015 06:28
Endosulfan sulfate	ND		0.00063	0.0010	1	07/18/2015 06:28
Endrin	ND		0.00042	0.0010	1	07/18/2015 06:28
Endrin aldehyde	ND		0.00020	0.0010	1	07/18/2015 06:28
Endrin ketone	ND		0.00013	0.0010	1	07/18/2015 06:28
Heptachlor	ND		0.00021	0.0010	1	07/18/2015 06:28
Heptachlor epoxide	ND		0.00020	0.0010	1	07/18/2015 06:28
Hexachlorobenzene	ND		0.00027	0.010	1	07/18/2015 06:28
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/18/2015 06:28
Methoxychlor	ND		0.00089	0.0010	1	07/18/2015 06:28
Toxaphene	ND		0.035	0.050	1	07/18/2015 06:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	07/18/2015 06:28

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-10 (1-1.5')	1507427-020A	Soil	07/09/2015 14:45	GC40	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/16/2015 09:48
a-BHC	ND	0.00010	0.0010	1	07/16/2015 09:48
b-BHC	ND	0.00025	0.0010	1	07/16/2015 09:48
d-BHC	ND	0.00037	0.0010	1	07/16/2015 09:48
g-BHC	ND	0.000097	0.0010	1	07/16/2015 09:48
Chlordane (Technical)	0.040	0.016	0.025	1	07/16/2015 09:48
a-Chlordane	0.0051	0.00047	0.0010	1	07/16/2015 09:48
g-Chlordane	0.0052	0.00021	0.0010	1	07/16/2015 09:48
p,p-DDD	ND	0.00014	0.0010	1	07/16/2015 09:48
p,p-DDE	0.0014	0.00032	0.0010	1	07/16/2015 09:48
p,p-DDT	0.0040	0.00043	0.0010	1	07/16/2015 09:48
Dieldrin	ND	0.00033	0.0010	1	07/16/2015 09:48
Endosulfan I	ND	0.00065	0.0010	1	07/16/2015 09:48
Endosulfan II	ND	0.00020	0.0010	1	07/16/2015 09:48
Endosulfan sulfate	ND	0.00063	0.0010	1	07/16/2015 09:48
Endrin	ND	0.00042	0.0010	1	07/16/2015 09:48
Endrin aldehyde	ND	0.00020	0.0010	1	07/16/2015 09:48
Endrin ketone	ND	0.00013	0.0010	1	07/16/2015 09:48
Heptachlor	ND	0.00021	0.0010	1	07/16/2015 09:48
Heptachlor epoxide	ND	0.00020	0.0010	1	07/16/2015 09:48
Hexachlorobenzene	ND	0.00027	0.010	1	07/16/2015 09:48
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/16/2015 09:48
Methoxychlor	ND	0.00089	0.0010	1	07/16/2015 09:48
Toxaphene	ND	0.035	0.050	1	07/16/2015 09:48

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	71	70-130	07/16/2015 09:48

Analyst(s): SS

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-10 (1-1.5') DUP	1507427-020B	Soil	07/09/2015 14:45	GC22	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/20/2015 13:40
a-BHC	ND	0.00010	0.0010	1	07/20/2015 13:40
b-BHC	ND	0.00025	0.0010	1	07/20/2015 13:40
d-BHC	ND	0.00037	0.0010	1	07/20/2015 13:40
g-BHC	ND	0.000097	0.0010	1	07/20/2015 13:40
Chlordane (Technical)	0.038	0.016	0.025	1	07/20/2015 13:40
a-Chlordane	0.0052	0.00047	0.0010	1	07/20/2015 13:40
g-Chlordane	0.0040	0.00021	0.0010	1	07/20/2015 13:40
p,p-DDD	ND	0.00014	0.0010	1	07/20/2015 13:40
p,p-DDE	0.0019	0.00032	0.0010	1	07/20/2015 13:40
p,p-DDT	0.0048	0.00043	0.0010	1	07/20/2015 13:40
Dieldrin	ND	0.00033	0.0010	1	07/20/2015 13:40
Endosulfan I	ND	0.00065	0.0010	1	07/20/2015 13:40
Endosulfan II	ND	0.00020	0.0010	1	07/20/2015 13:40
Endosulfan sulfate	ND	0.00063	0.0010	1	07/20/2015 13:40
Endrin	ND	0.00042	0.0010	1	07/20/2015 13:40
Endrin aldehyde	ND	0.00020	0.0010	1	07/20/2015 13:40
Endrin ketone	ND	0.00013	0.0010	1	07/20/2015 13:40
Heptachlor	ND	0.00021	0.0010	1	07/20/2015 13:40
Heptachlor epoxide	0.0010	0.00020	0.0010	1	07/20/2015 13:40
Hexachlorobenzene	ND	0.00027	0.010	1	07/20/2015 13:40
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/20/2015 13:40
Methoxychlor	ND	0.00089	0.0010	1	07/20/2015 13:40
Toxaphene	ND	0.035	0.050	1	07/20/2015 13:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	129	70-130	07/20/2015 13:40

Analyst(s): CK

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-11 (1-1.5')	1507427-022A	Soil	07/09/2015 15:10	GC22	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/20/2015 20:38
a-BHC	ND		0.00010	0.0010	1	07/20/2015 20:38
b-BHC	ND		0.00025	0.0010	1	07/20/2015 20:38
d-BHC	ND		0.00037	0.0010	1	07/20/2015 20:38
g-BHC	ND		0.000097	0.0010	1	07/20/2015 20:38
Chlordane (Technical)	0.095		0.016	0.025	1	07/20/2015 20:38
a-Chlordane	0.016		0.00047	0.0010	1	07/20/2015 20:38
g-Chlordane	0.0076		0.00021	0.0010	1	07/20/2015 20:38
p,p-DDD	ND		0.00014	0.0010	1	07/20/2015 20:38
p,p-DDE	0.012		0.00032	0.0010	1	07/20/2015 20:38
p,p-DDT	0.024		0.00043	0.0010	1	07/20/2015 20:38
Dieldrin	0.00053	J	0.00033	0.0010	1	07/20/2015 20:38
Endosulfan I	ND		0.00065	0.0010	1	07/20/2015 20:38
Endosulfan II	ND		0.00020	0.0010	1	07/20/2015 20:38
Endosulfan sulfate	ND		0.00063	0.0010	1	07/20/2015 20:38
Endrin	ND		0.00042	0.0010	1	07/20/2015 20:38
Endrin aldehyde	ND		0.00020	0.0010	1	07/20/2015 20:38
Endrin ketone	ND		0.00013	0.0010	1	07/20/2015 20:38
Heptachlor	ND		0.00021	0.0010	1	07/20/2015 20:38
Heptachlor epoxide	0.0018		0.00020	0.0010	1	07/20/2015 20:38
Hexachlorobenzene	ND		0.00027	0.010	1	07/20/2015 20:38
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/20/2015 20:38
Methoxychlor	ND		0.00089	0.0010	1	07/20/2015 20:38
Toxaphene	ND		0.035	0.050	1	07/20/2015 20:38

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	111	70-130	07/20/2015 20:38

Analyst(s): CK

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-12 (SURF)	1507427-023A	Soil	07/09/2015 15:22	GC22	107585

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.00027	0.0010	1	07/20/2015 21:13
a-BHC	ND	0.00010	0.0010	1	07/20/2015 21:13
b-BHC	ND	0.00025	0.0010	1	07/20/2015 21:13
d-BHC	ND	0.00037	0.0010	1	07/20/2015 21:13
g-BHC	ND	0.000097	0.0010	1	07/20/2015 21:13
Chlordane (Technical)	0.11	0.016	0.025	1	07/20/2015 21:13
a-Chlordane	0.013	0.00047	0.0010	1	07/20/2015 21:13
g-Chlordane	0.011	0.00021	0.0010	1	07/20/2015 21:13
p,p-DDD	ND	0.00014	0.0010	1	07/20/2015 21:13
p,p-DDE	0.012	0.00032	0.0010	1	07/20/2015 21:13
p,p-DDT	0.018	0.00043	0.0010	1	07/20/2015 21:13
Dieldrin	ND	0.00033	0.0010	1	07/20/2015 21:13
Endosulfan I	ND	0.00065	0.0010	1	07/20/2015 21:13
Endosulfan II	ND	0.00020	0.0010	1	07/20/2015 21:13
Endosulfan sulfate	ND	0.00063	0.0010	1	07/20/2015 21:13
Endrin	ND	0.00042	0.0010	1	07/20/2015 21:13
Endrin aldehyde	ND	0.00020	0.0010	1	07/20/2015 21:13
Endrin ketone	ND	0.00013	0.0010	1	07/20/2015 21:13
Heptachlor	ND	0.00021	0.0010	1	07/20/2015 21:13
Heptachlor epoxide	0.0012	0.00020	0.0010	1	07/20/2015 21:13
Hexachlorobenzene	ND	0.00027	0.010	1	07/20/2015 21:13
Hexachlorocyclopentadiene	ND	0.00040	0.020	1	07/20/2015 21:13
Methoxychlor	ND	0.00089	0.0010	1	07/20/2015 21:13
Toxaphene	ND	0.035	0.050	1	07/20/2015 21:13

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	117	70-130	07/20/2015 21:13

Analyst(s): CK

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Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-12 (1-1.5')	1507427-024A	Soil	07/09/2015 15:25	GC22	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/21/2015 07:21
a-BHC	ND		0.00010	0.0010	1	07/21/2015 07:21
b-BHC	ND		0.00025	0.0010	1	07/21/2015 07:21
d-BHC	ND		0.00037	0.0010	1	07/21/2015 07:21
g-BHC	ND		0.000097	0.0010	1	07/21/2015 07:21
Chlordane (Technical)	ND		0.016	0.025	1	07/21/2015 07:21
a-Chlordane	0.0012		0.00047	0.0010	1	07/21/2015 07:21
g-Chlordane	0.00059	J	0.00021	0.0010	1	07/21/2015 07:21
p,p-DDD	0.00041	J	0.00014	0.0010	1	07/21/2015 07:21
p,p-DDE	0.0027		0.00032	0.0010	1	07/21/2015 07:21
p,p-DDT	0.0063		0.00043	0.0010	1	07/21/2015 07:21
Dieldrin	ND		0.00033	0.0010	1	07/21/2015 07:21
Endosulfan I	ND		0.00065	0.0010	1	07/21/2015 07:21
Endosulfan II	ND		0.00020	0.0010	1	07/21/2015 07:21
Endosulfan sulfate	ND		0.00063	0.0010	1	07/21/2015 07:21
Endrin	ND		0.00042	0.0010	1	07/21/2015 07:21
Endrin aldehyde	ND		0.00020	0.0010	1	07/21/2015 07:21
Endrin ketone	ND		0.00013	0.0010	1	07/21/2015 07:21
Heptachlor	ND		0.00021	0.0010	1	07/21/2015 07:21
Heptachlor epoxide	ND		0.00020	0.0010	1	07/21/2015 07:21
Hexachlorobenzene	ND		0.00027	0.010	1	07/21/2015 07:21
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/21/2015 07:21
Methoxychlor	ND		0.00089	0.0010	1	07/21/2015 07:21
Toxaphene	ND		0.035	0.050	1	07/21/2015 07:21

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	70-130	07/21/2015 07:21

Analyst(s): CK

(Cont.)



Analytical Report

Client: Padre Associates, Inc.

WorkOrder: 1507427

Project: #1401-2171; CUPERTINO (SEDGWICK PEA)

Extraction Method: SW3550B

Date Received: 7/13/15 17:18

Analytical Method: SW8081A

Date Prepared: 7/13/15-7/16/15

Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
P-14 (1-1.5')	1507427-028A	Soil	07/10/2015 08:31	GC23	107585

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00027	0.0010	1	07/18/2015 08:57
a-BHC	ND		0.00010	0.0010	1	07/18/2015 08:57
b-BHC	ND		0.00025	0.0010	1	07/18/2015 08:57
d-BHC	ND		0.00037	0.0010	1	07/18/2015 08:57
g-BHC	ND		0.000097	0.0010	1	07/18/2015 08:57
Chlordane (Technical)	ND		0.016	0.025	1	07/18/2015 08:57
a-Chlordane	0.0014		0.00047	0.0010	1	07/18/2015 08:57
g-Chlordane	0.00089	J	0.00021	0.0010	1	07/18/2015 08:57
p,p-DDD	0.00047	J	0.00014	0.0010	1	07/18/2015 08:57
p,p-DDE	0.014		0.00032	0.0010	1	07/18/2015 08:57
p,p-DDT	0.0090		0.00043	0.0010	1	07/18/2015 08:57
Dieldrin	ND		0.00033	0.0010	1	07/18/2015 08:57
Endosulfan I	ND		0.00065	0.0010	1	07/18/2015 08:57
Endosulfan II	ND		0.00020	0.0010	1	07/18/2015 08:57
Endosulfan sulfate	ND		0.00063	0.0010	1	07/18/2015 08:57
Endrin	ND		0.00042	0.0010	1	07/18/2015 08:57
Endrin aldehyde	ND		0.00020	0.0010	1	07/18/2015 08:57
Endrin ketone	ND		0.00013	0.0010	1	07/18/2015 08:57
Heptachlor	ND		0.00021	0.0010	1	07/18/2015 08:57
Heptachlor epoxide	ND		0.00020	0.0010	1	07/18/2015 08:57
Hexachlorobenzene	ND		0.00027	0.010	1	07/18/2015 08:57
Hexachlorocyclopentadiene	ND		0.00040	0.020	1	07/18/2015 08:57
Methoxychlor	ND		0.00089	0.0010	1	07/18/2015 08:57
Toxaphene	ND		0.035	0.050	1	07/18/2015 08:57

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	70-130	07/18/2015 08:57

Analyst(s): SS

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