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April 8, 2016

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Attention: Mr. Mark Detterman, PG, CEG, Senior Hazardous Materials Specialist

TRANSMITTAL LETTER
WORK PLAN FOR SOIL VAPOR EXTRACTION
6701, 6705, and 6707 SHELLMOUND STREET
EMERYVILLE, CALIFORNIA
Fuel Leak Case No. RO0000548
Geotracker Global ID T0600100894

Dear Mr. Detterman:

Submitted herewith for your review is the Work Plan for Soil Vapor Extraction, 6701, 6705, and 6707 Shellmound Street, Emeryville, California dated April 8, 2016, prepared by PES Environmental, Inc.

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-referenced document for the subject property are true and correct to the best of my knowledge.

Very truly yours,

ANTON EMERYVILLE, LLC

Rachel Green
Development Manager

PES Environmental, Inc.
Engineering & Environmental Services

A Report Prepared For:

Anton Emeryville, LLC
950 Tower Lane, Suite 1225
Foster City, California 94404

Attention: Mr. Rachel Green

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APRIL 8, 2016

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1.0 INTRODUCTION

This document has been prepared by PES Environmental, Inc. (PES), on behalf of Anton Emeryville, LLC (Anton), to present a Work Plan for Soil Vapor Extraction (Work Plan) for the property located at 6701, 6705, and 6707 Shellmound Street in Emeryville, California (collectively, the subject property or site). The site consists of a single legal parcel identified by Alameda County Assessor's Parcel Number (APN) 049-14906-02, covering approximately 2.27 acres. The site location and a site plan are shown on Plates 1 and 2. The subject property is currently listed as an open Spills, Leaks, Investigation and Cleanup (SLIC) case[1] with Alameda County Environmental Health (ACEH) as the lead environmental regulatory agency. PES understands Anton is seeking to acquire the site for redevelopment purposes and the development plans include: demolition of existing buildings; grading and soil excavation for utilities and building foundations; and construction of a new multi-story multi-use building and associated parking, driveway, and landscaped areas.

PES recently implemented ACEH-approved work plans for pre-construction subsurface investigations at the site (PES, 2015c, PES, 2016a). The results of the investigations were documented in a report dated April 8, 2016 (Subsurface Investigation Report; PES, 2016b). The investigation findings included the identification of volatile organic compounds (VOCs) in soil and soil vapor primarily beneath the southwestern portion of the site. These findings were discussed in a conference call with Anton and ACEH on March 1, 2016. During the conference, PES recommended and ACEH concurred that implementation of an interim remedial measure (IRM) consisting of soil vapor extraction (SVE), would be appropriate to reduce concentrations of VOCs in subsurface prior to, and possibly during, the initiation of the planned development activities and to reduce potential exposure to site users.

A Conceptual Site Model (CSM; PES, 2015a), Site Management Plan (SMP; PES, 2015b) and Human Health Risk Assessment (HHRA; SLR, 2015) have been submitted to ACEH. The IRM SVE activities presented in this Work Plan are intended to be conducted in conjunction with the SMP.

The objective of this Work Plan is to: (1) evaluate and verify soil vapor extraction (SVE) techniques through performance of an SVE pilot study; and (2) implement the IRM using SVE to remove VOCs in the southwest portion of the site based on results of the pilot study.

The following sections in this Work Plan include:

- **Section 2.0, Background** – presents a description of the site and its history, as well as the local geology and hydrogeology;
- **Section 3.0, Previous Site Activities** – presents a summary of previous environmental investigations, focusing on activities performed at and in the vicinity of the site;

[1] The case is identified as Mike Roberts Color Production (6707 Bay Street) ACEH Fuel Leak Case No. RO0000548; California State Water Resource Control Board GeoTracker Global ID T0600100894.

- **Section 4.0, Work Plan for Soil Vapor Extraction** – identifies the methodologies of the planned SVE pilot study, and provides details on the planned implementation of IRMs using SVE based on the pilot study results;

- **Section 5.0, Interim Remedial Measure Performance Criteria** – discusses criteria for assessment of SVE performance as an IRM;

- **Section 6.0, Reporting and Implementation Schedule** - discusses items to be included in results reporting and presents a schedule for implementing this Work Plan; and

- **Section 7.0, References** – presents references utilized in the development of this Work Plan.

2.0 SITE BACKGROUND

Summary descriptions of the site location, physical setting, site history and operations, geologic and hydrogeologic settings are presented below. Additional details were presented in the CSM and SMP documents (PES, 2015a and 2015b).

2.1 Current Site and Vicinity Characteristics

The site is located at 6701, 6705, and 6707 Shellmound Street (previously known as Bay Street), in a mixed industrial, commercial, and residential area of Emeryville, Alameda County, California. The site consists of a single legal parcel covering approximately 2.27 acres and identified by Alameda County APN 049-1490-002. The current site buildings consist of a two-story office building and a warehouse building (Plate 2). A second story mezzanine-level is located in the northern portion of the warehouse. The warehouse and office building are connected by a 1-story lobby/receptionist area. The footprints of the office and warehouse buildings occupy approximately 7,470 and 43,850 square feet, respectively (see Plate 2), and both buildings have concrete slab-on grade floors. The exterior of the subject property consists of landscaped areas and asphalt paved parking and driving areas.

The site is bounded to the west and north by the Ashby Avenue off-ramp from Interstate 80, to the south by a commercial building, and to the east by Shellmound Street and a railroad right-of-way. The site buildings and adjacent areas are shown on Plate 2.

According to the United States Geological Survey (USGS) Oakland West, California Quadrangle 7.5 minute series topographic map dated 1993, the site is situated at an elevation of approximately 18 feet above mean sea level. The site is relatively flat, but the vicinity slopes gently to the west/southwest. The nearest surface water body is San Francisco Bay, located approximately 1,000 feet west of the subject property.

2.2 Historical Site Use

An extensive discussion of historical site use was presented in the PES' SMP dated May 19, 2015. A brief summary of site historical use is presented below.

The site land historically consisted of San Francisco Bay tidal mud flats and was below sea level until the mid- to late-1930s, when a levee was built west of the subject property and a highway (Eastshore Highway, now Interstate 80) was constructed on the levee. From that time until the early to mid-1950s the area between the highway and the former shoreline, including the subject property and vicinity, were intermittently filled using non-native materials to create buildable land. The existing site buildings were constructed over the fill materials in approximately 1963.

A label tape manufacturer (Dymo) operated at the site from approximately 1963 to 1979, and reportedly used chemicals including methyl isobutyl ketone (MIBK, which is also known as 4-methyl-2-pentanone) and methyl ethyl ketone (MEK, also known as 2-butanone) stored in three underground storage tanks (USTs), previously located in the eastern portion of the site. The USTs were removed in 1989. Mike Roberts Color Production (MRCP) operated at the site from 1979 to 1989, and initially manufactured and printed colored postcards before later incorporating color printing, lithography, and off-set printing operations. Nady Systems, Inc. (Nady) purchased the property from MRCP in 1990 and utilizes the site for office use and for storage of electronic sound equipment, product shipping and receiving, and minor equipment repair. Nady reportedly uses only limited amounts of chemicals in its operations.

2.3 Site Geology and Hydrogeology

Based on the results of investigations performed on the subject property and in the vicinity, the site is underlain by fill material overlying deposits of native silts and clays known locally as Old Bay Mud. The fill material ranges in thickness from approximately 10 to 19 feet and consists primarily of coarse-grained sands and gravels that contain varying amounts of fines, and fine-grained silts and clays. The fill material has been encountered throughout the site and is generally most abundant on the western half of the site and at depths below approximately 8 to 10 feet below ground surface (bgs). The fill material often contains abundant debris (e.g., brick, concrete, metal, asphalt, glass, wood, fabric, and rubber). Fine-grained soils are present directly below the fill material. These soils generally consist of dark-colored clays and occasional silts with organic material that represent Old Bay Mud deposits.

Depth to groundwater varies locally across the site but is generally shallow. Shallow groundwater at the site has been encountered at the site at depths ranging from approximately 8 to 12 feet bgs. Based on topography and the results of historical groundwater investigations, the predominant groundwater flow direction beneath the site is to the south-southwest toward the San Francisco Bay, with localized flow towards the west-northwest in the area of the former USTs located in the eastern portion of the site.

Previous investigations have shown that the fill materials at the site and other similarly filled properties in the vicinity contain residual contamination. Contamination found and attributed to the non-native fill materials originally used to create the land along the bay-shore area of Emeryville including the site and immediate vicinity includes impacts related to total petroleum hydrocarbons (TPH), VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals.

3.0 PREVIOUS SITE ACTIVITIES

Extensive site-specific and vicinity investigations have been recently performed by: ENVIRON (2013), and PES (2014a, 2016b). The data from these investigations are summarized below. Pertinent data tables and figures presenting the results from these investigations are included in Appendix A.

Recent Environmental Investigations

3.1 April 2013 Groundwater Sampling

ENVIRON International Corporation (ENVIRON) conducted grab groundwater sampling at the site in April 2013 (ENVIRON, 2013a, 2013b). Grab groundwater sampling locations are shown on Plate 2. The results of the sampling indicated that groundwater was impacted with total petroleum hydrocarbons quantified as diesel (TPHd) and total petroleum hydrocarbons quantified as motor oil (TPHmo) at concentrations above regulatory screening levels. Benzene, ethylbenzene, naphthalene, and xylenes were detected in groundwater in the western portion of the site (at sample location SG-5).

3.2 2013 Soil Vapor Sampling

As part of the April 2013 investigation, ENVIRON collected soil gas samples at locations SG-1 through SG-5 for analysis of VOCs. Benzene was detected at locations SG-1, SG-3, SG-4 and SG-5 at concentrations of 8.6 to 73 micrograms per cubic meter (μg/m3). The concentration of 73 μg/m3 detected at SG-3 is above the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Level (ESL) for shallow soil gas at residential sites which is 48 micrograms per cubic meter ($\mu g/m^3$).

3.3 November 2013 Groundwater Sampling

In November 2013, PES conducted a supplemental subsurface investigation at the subject property (PES, 2014a). Grab groundwater sampling locations are shown on Plate 2. The investigation included the collection and analysis of grab groundwater samples from temporary well casings from six borings (GGW-1 through GGW-6) advanced in the exterior portions of the site.

The results of the grab groundwater sampling and analysis indicated groundwater impact from dissolved metals (i.e., arsenic and lead) above State of California Maximum Contaminant Levels (MCLs[2]) (PES, 2014a).

3.4 2015 Soil Vapor and Sub-Slab Vapor Sampling

In April 2015, a limited soil vapor and sub-slab vapor investigation was conducted by PES to further evaluate subsurface conditions in the vicinity of the former USTs and beneath the concrete slab of the existing warehouse building. Soil vapor sampling locations are shown on Plate 2. The additional investigation included conducting soil gas and sub-slab vapor sampling for VOCs, methane, carbon dioxide, and oxygen. Soil gas samples were collected from three exterior locations at approximate depths of 5 and 10 feet bgs. Sub-slab vapor samples were collected from four interior locations at the site for analysis of VOCs, methane, carbon dioxide, and oxygen.

3.4.1 Soil Vapor Analytical Results

The analytical results indicate residual levels of VOCs, including benzene, toluene, ethylbenzene, and xylenes (collectively, BTEX compounds), MEK, and MIBK, in soil gas at approximate depths of 5 and 10 feet bgs in the vicinity of the former USTs and above applicable residential Environmental Screening Levels (ESLs). Methane was not detected in the soil vapor samples at or above the laboratory reporting limit, carbon dioxide was detected at levels ranging from 4.52 percent by volume (%volume) to 13.6 %volume, and oxygen levels ranged from 6.53%volume to 15.9%volume.

3.4.2 Sub-Slab Vapor Analytical Results

Low levels of VOCs, including tetracholoroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), styrene, and MEK were detected in sub-slab vapor samples collected beneath the concrete slab of the warehouse building. Sub-slab sampling locations are shown on Plate 2. Methane was not detected in the sub-slab vapor samples at or above the laboratory reporting limit, carbon dioxide was detected in three of the four samples at levels ranging from 0.272 %volume to 4.25 %volume, and oxygen levels ranged from 8.97 %volume to 19.1 %volume.

3.5 Pre-Construction Subsurface Investigation – November and December 2015

On November 30 through December 3, 2015, PES conducted a pre-construction subsurface investigation at the subject property. Soil vapor and soil sampling activities were conducted using direct push drilling technology at 65 locations at the site, including 24 soil vapor sampling locations, 28 soil sampling locations, and 13 multi-purpose soil vapor and soil sampling locations to evaluate the subsurface for the presence of VOCs, TPH, SVOCs, PCBs, metals, and/or asbestos-containing material (ACM) related to historical deposition of fill material beneath the site or previous industrial activities conducted at the site. The primary

[2] California Department of Public Health Maximum Contaminant Levels (MCLs).

objectives of the investigation included evaluating soil vapor conditions at multiple depths beneath ground-floor residential units and common and amenity areas, and assessing the condition of soil anticipated to be disturbed during redevelopment construction, including: (1) soil to be excavated to accommodate the future building mat, pavement sections, landscape and surface water infiltration features; and (2) soil within planned utility trenches, to facilitate future construction worker safety and proper management of disturbed soil.

Soil Vapor

The results of the pre-construction subsurface investigation indicate the presence of VOCs, including vinyl chloride, benzene, and 1,1,2,2-tetrachloroethane (1,1,2,2-PCA) in soil vapor at concentrations above ESLs for residential and commercial land use. Concentrations of benzene, which was identified in soil vapor at multiple locations and depths across the site, and 1,1,2,2-PCA which was detected in isolated areas of the site, were generally consistent with the documented presence of petroleum hydrocarbons or other constituents associated with historical fill material. Vinyl chloride was detected at elevated concentrations in soil vapor primarily in the southwestern portion of the site.

Soil

The investigation also identified elevated concentrations of petroleum hydrocarbons (including TPHd and TPHmo), PCBs, phenol (an SVOC), and metals (including arsenic, lead, nickel, and zinc) in shallow soil across the site, consistent with the documented presence of historical fill material at the site.

3.6 Supplemental Investigation – February 2016

Additional soil vapor, soil, and groundwater sampling activities were completed in accordance with PES' *Work Plan for Supplemental Pre-Construction Subsurface Investigation* dated January 21, 2016 (PES, 2016a) and conditionally approved by ACEH in a letter dated January 27, 2016. The results of the investigations were documented in the Subsurface Investigation Report (PES, 2016b).

The work was conducted February 1 through 4, 2016, and an additional 28 locations (primarily in the southwestern portion of the site) were sampled, including six soil vapor sampling locations, seven soil sampling locations, one grab groundwater sampling location, five soil and grab groundwater sampling locations, and nine locations for collection of both soil vapor and soil samples. The supplemental investigation activities were conducted to further evaluate the subsurface for the presence of VOCs (particularly vinyl chloride), to evaluate for potential source areas, and provide data in support of developing remedial or mitigation measures appropriate for the proposed development.

Soil Vapor

The results of the supplemental sampling indicated the presence of vinyl chloride and other VOCs in vadose zone soil in the southwestern portion of the site, with the most elevated concentrations of vinyl chloride detected at approximate depths of 5 and 10 feet bgs beneath the western portion of the unpaved alleyway immediately south of the warehouse (and adjacent to the southern property boundary), as well as beneath the southwestern portion of the warehouse concrete floor slab (PES, 2016b). The soil vapor sample data indicated the most elevated concentrations of vapor-phase VOCs were located beneath the western portion of the alleyway at approximate depths of 10 feet bgs. Detected oxygen levels ranged from 0.59 to 24 percent by volume; methane was also detected at levels ranging from 0.69 to 94 percent by volume. In general, elevated vinyl chloride concentrations detected in soil vapor samples were detected in locations with relatively low levels of oxygen.

Groundwater

Relatively low concentrations of VOCs, including vinyl chloride and benzene, were detected in groundwater beneath the southwestern portion of the site. Benzene concentrations in groundwater were detected slightly above the drinking water ESL, but well below the ESL for evaluation of potential vapor intrusion. The maximum concentration of vinyl chloride detected in grab groundwater samples (7.3 μg/L in sample SB61), while slightly above the ESL for evaluation of potential vapor intrusion in a residential setting (2.0 μg/L), was below the vapor intrusion ESL for a commercial setting (17 μg/L). The relatively low groundwater sample results suggested that potential off-gassing from groundwater was not a significant source for the elevated levels of vinyl chloride detected in soil vapor.

In the Subsurface Investigation Report, PES recommended: (1) updating the existing CSM (PES, 2015a), SMP (PES, 2015b) and (HHRA (SLR, 2015) for the site to incorporate the Supplemental and Pre-Construction Subsurface Investigation findings; and (2) well as implementation of corrective action (e.g., IRMs) to the address VOC-affected media identified in the southwest portion of the property, including measures designed to actively reduce concentrations of VOCs beneath the site to acceptable risk-based levels.

4.0 WORK PLAN FOR SOIL VAPOR EXTRACTION

This section presents the strategy and scope of work for conducting the pilot and full-scale activities. Soil vapor extraction is a technology that uses vacuum blowers and extraction wells for the purpose of creating pressure gradients in the vadose zone to induce airflow towards vapor extraction wells. The scope of work presented in this section has been developed based on the results of the previous investigations performed at the site, and is consistent with the California Health and Safety Code (H&SC), section 25300 et seq.; the National Contingency Plan (Title 40 Code of Federal Regulations [CFR] Part 300); and U.S. Environmental Protection Agency (USEPA) Superfund and California Department of Toxic Substances Control (DTSC) guidance documents regarding site investigation and remediation.

4.1 Objectives and Approach

The objective of this Work Plan is to present procedures to:

- Conduct an SVE pilot study to provide sufficient data for the verification of anticipated pressure (vacuum), pore volume exchange (PVE) rate, and radius of effective vacuum influence (ROI) field, as developed by vacuum applied to SVE wells and vapor monitoring probes or wells;
- Obtain VOC concentration data from extracted vapor for use in optimization of the soil vapor extraction and treatment system design (USEPA, 1991); and
- Implement full-scale SVE utilizing the pilot study results.

4.2 Proposed Scope of Work

The scope of work for additional characterization at the site includes the following activities: (1) field preparation activities; (2) installation of SVE pilot study wells and soil vapor monitoring probes; (3) performing a 3-day SVE pilot study; (4) design and installation of full-scale SVE; (5) performance of full-scale IRM using soil vapor extraction; and (6) reporting. These tasks are further described below.

4.2.1 Field Planning Activities

Prior to initiating activities at the site, permits to construct/operate the SVE pilot study will be obtained from the City of Emeryville and the Bay Area Air Quality Management District (BAAQMD). Underground Service Alert will be contacted to schedule visits by public and private utility companies to locate their underground utilities. A private underground utility locating service will be contracted to conduct a subsurface electromagnetic survey to clear the proposed subsurface intrusion locations of subsurface utilities. PES' Health and Safety Plan, previously prepared to comply with federal and California Occupational Safety and Health Administration guidelines, will be updated for the SVE work activities.

4.2.2 Installation of Pilot Study Soil Vapor Extraction Well

One SVE well will be installed adjacent to soil vapor sampling location SV22, which exhibited the highest detected concentration of vinyl chloride in the subsurface beneath the building. The proposed pilot study SVE well location is shown on Plate 3. The boring for the SVE pilot study well will be advanced using nominal 10-inch diameter hollow-stem auger. The SVE well will be installed within the vadose zone (estimated to extend to approximately 12 to 13 feet bgs). The SVE well will be constructed with 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with 0.020-inch slots. The screen interval for the well will be from approximately 5 to 10 feet bgs. However, the final completion depth may be modified based on field observations of saturated conditions. The proposed well completion detail is presented on Plate 4.

4.2.3 Installation of Pilot Study Soil Vapor Probes

A total of six soil vapor monitoring probes will be installed at the approximate locations shown on Plate 3. The soil vapor probes will be utilized to monitor subsurface vapor and vacuum conditions during the SVE pilot study and during full-scale implementation.

The soil vapor monitoring probes will be constructed using a direct-push drill rig equipped with 1- to 1 1/2-inch diameter sampling rods. The sampling rods will be driven to the desired depth and soil will be continuously sampled and logged at each location. Soil borings for vapor monitoring probe installation will be continuously cored by driving a 4-foot long by 2-inch outside-diameter sampler into undisturbed soil. The continuous soil cores will be utilized to identify lithologic conditions within the target depth of the probes. A PES geologist or engineer will supervise the drilling activities and prepare a lithologic log of each boring using the Unified Soil Classification System and Munsell Color Index. Selected soil samples will be screened in the field for the presence of VOCs in the sample headspace using a photoionization detector (PID). The PID readings will be recorded on the boring logs.

Plate 5 presents generalized construction details for the soil vapor monitoring probes to be constructed at the proposed locations shown on Plate 3. The soil vapor monitoring probes will be equipped with inlets at approximately 7.5 feet bgs (i.e., the anticipated mid-point of the SVE well screen). The final construction depths will be determined based on field observations obtained during drilling and lithologic logging activities, and will be selected to target permeable zones of the formation. Each monitoring probe will consist of 1/4-inch outside diameter (OD) Nylaflow® (or equivalent) tubing and a stainless steel vapor probe tip. The probe tip will be approximately 1-3/4 inches in length and consist of Type 316 stainless steel, with a porous filtration rating of 50 microns (or equivalent). The probe tip will contain a push-in brass fitting to connect to the Nylaflow® tubing that will extend to near ground surface. The top of the tubing will be equipped with a sealable and removable cap. Installation will be performed in accordance with the California Environmental Protection Agency's (Cal-EPA) July 2015, *Advisory – Active Soil Gas Investigation* (Advisory) (DTSC, 2015).

4.2.4 Vapor Sampling during the SVE Pilot Study

4.2.4.1 Soil Vapor Extraction Wells

During SVE pilot testing, soil vapor samples will be collected from the pilot study SVE well prior to, during, and following the pilot study. Additionally, periodic influent vapor samples will be collected to monitor changes in vapor concentrations, calculate mass removal rates, and assess efficacy of SVE in the removal of VOCs from the vadose zone.

Vapor influent samples will be collected in laboratory supplied tedlar bags or Summa canisters. The frequency for sample collection and laboratory analysis will be determined by the test sequence being performed. SVE well samples for laboratory analysis will be periodically collected in clean, evacuated 1-liter Summa canisters provided by the selected laboratory. The Summa canisters will be evacuated to a full vacuum (approximately 30 inches of mercury or 406 in-H_2O) before use. To collect a sample, the canister will be connected to

the extraction well sample port with inert Teflon tubing, and then the canister valve will be opened. The high vacuum in the canister will draw soil vapor from the well until equilibrium is reached. The valve will then be closed and the canister shipped to the laboratory under standard chain of custody procedures. Samples will be analyzed for VOCs using USEPA Test Method TO-15 by a California state-certified analytical laboratory.

4.2.4.2 Soil Vapor Probe Sampling Procedures

Prior to sampling, each probe will be purged using a laboratory-supplied, certified clean, 6-liter Summa canister supplied with an air flow regulator connected to the tubing. The Summa canister will be opened and using the air flow regulator, the appropriate purge volume (i.e., three purge volumes based on the Advisory) will be evacuated from the tubing and probe. Following the purging of the appropriate volume of soil vapor, the soil vapor sample will be collected with a laboratory-supplied, certified clean 1-liter Summa canister. The canister will be filled with soil vapor under a controlled flow of approximately 100 to 200 milliliters per minute using the flow regulator. The Summa canister will be labeled, and prepared for shipment to a stationary laboratory under chain-of-custody protocol for chemical analysis. Soil vapor samples will be analyzed by the laboratory for VOCs using USEPA Test Method TO-15.

4.2.5 Pilot Test Objectives

The specific objectives of the SVE pilot test are as follows:

- Collect air flow and pressure data to evaluate extraction well operating parameters;
- Verify well spacing assumptions; and
- Collect VOC concentration data for influent soil vapor to estimate the VOC mass removal rates that will dictate VOC mass loading rates for sizing of the emission control systems and for estimating total system operating timeframes.

To accomplish these objectives, the SVE pilot test will be performed in a sequential manner. The purpose of conducting the SVE pilot test in sequence is to use the data from a previous sequence to focus the field activities for the following sequence (as appropriate), and to adjust the test parameters to maximize the value of each test sequence.

4.2.5.1 SVE Pilot Test Sequence

The SVE pilot test sequence will consist of step and constant-rate tests. Baseline testing of initial conditions will be performed before active extraction pilot tests to provide a reference for VOC concentrations measured during the pilot test program.

The SVE pilot tests are intended to provide data sufficient for the evaluation of the pressure field developed by the SVE well, and to assess the variation of pressure gradients around

the operating SVE well by observing the responses to extraction in the vapor monitoring probes. In addition, the SVE pilot testing will provide for an assessment of the quantity and concentration of extracted VOCs for use in designing the full-scale SVE and associated vapor treatment system. To assist in interpreting low pressure responses at the most distant monitoring probes, barometric pressure measurements will be integrated into the data collection process.

4.2.5.2 Passive Baseline Monitoring Test

The passive baseline monitoring test will be initiated before any of the SVE test sequences begin to establish a baseline of background or static soil vapor conditions. Air samples will be obtained to measure oxygen, carbon dioxide, and VOCs from the SVE wells/probes for comparison with measurements made during extraction tests. These data will assist in the quantification of changes in soil vapor chemistry that will likely result from active SVE. Field screening samples will be collected in a Tedlar bag which will be connected to a field instrument for parameter analysis. In addition to the field samples, selected samples will be collected using 250 milliliter or 1-liter Summa canisters and submitted to a California state-certified laboratory for analysis of VOCs using USEPA Test Method TO-15.

4.2.5.3 Vacuum Step Tests

Vacuum step tests are designed to test the range of vacuum that can be imposed on the vadose zone through an individual SVE well and to observe the resulting vapor flow rates and vacuum radii of influence. The purpose of the step tests is to collect data that will be used to select appropriate vacuums to be used in the constant rate tests. The step test will begin with a vacuum of approximately 20 inches of water column ("in-H_2O") applied at a SVE well. If no response is observed in any adjacent vapor monitoring probe, the vacuum will be stepped up in a regular sequence until a response is observed in a monitoring probe. A response will be defined as 1 percent of the extraction pressure, or a minimum of 0.05 in-H_2O vacuum. Each subsequent step will be taken only when monitoring responses remain stable for two sequential readings obtained 5 minutes apart. The step sequence will be continued until the operational capacity of the vacuum blower is maximized or further increases in vacuum pressure are not feasible.

Field VOC monitoring using Tedlar bags and a handheld PID or organic vapor analyzer (OVA) will be conducted frequently during the early portion of each step in the vacuum step tests to establish an adequate data set of VOC removal rates under rapidly changing SVE conditions. VOC data collected during the early portion of each step are useful in understanding the rate-limiting processes controlling VOC volatilization. Soil vapor samples may be collected for laboratory analysis at the end of each step and the results will be used to correlate with the field VOC monitoring data. Vacuum responses will also be recorded at each SVE well/monitoring probe more frequently at the beginning of each step, and then at a decreasing rate over time because the rate of vacuum response typically decreases with time.

4.2.5.4 Constant Rate Test

The constant rate test will be performed once the step tests are completed and flow/vacuum combinations are evaluated. The goals of the constant rate test are as follows:

- Assess the long-term equilibrium pressure distribution and estimate the area of influence for each SVE well;
- Collect adequate data to allow for calculation of average pneumatic conductivities; and
- Monitor changes in VOC concentrations over time to develop an understanding of the maximum mass removal rates for design of emission controls.

The decision to terminate the test will be based primarily on the level of equilibration of pressure with each of the monitoring probes. Equilibration in the monitoring probes is defined as less than 10 percent change between readings for two consecutive measurements taken at regular intervals. If the levels do not appear to be equilibrating after one to two days, the data will be reviewed and a decision will be made as to whether to continue the test.

Field VOC monitoring will be conducted more frequently during the early portion of the constant rate test to establish an adequate data set of VOC removal rates at the beginning of the test. Soil vapor samples will be collected for laboratory analysis at the end of the constant rate test. Vacuum responses will be recorded at each monitoring probe more frequently at the beginning of the test and then decrease over time because the rate of vacuum response typically decreases with time at a corresponding rate.

4.2.5.5 SVE Pilot Test Equipment

A range of extraction and instrumentation equipment will be used to perform the SVE pilot tests. The extraction blower, piping, and emissions control equipment will be comprised of intrinsically-safe equipment and configured to provide flexibility so that a range of tests can be performed.

A dedicated SVE blower will be used for the pilot test. The SVE blower will be permitted with a permit to construct/permit to operate issued by BAAQMD. The SVE blower system will consist of a blower capable of providing a range of vacuum pressures and flow rates (up to 750-800 standard cubic feet per minute [scfm]). A positive displacement blower will be used for the test. The blower system will include a dilution air inlet and a recycle loop for increased flexibility. The adjustable dilution air inlet valve will allow ambient air to be drawn into the blower system inlet to dilute vapor extracted from SVE well(s). This will be necessary if VOC vapor concentrations exceed the operational capabilities of the emission control devices or if vacuum levels exceed operational parameters of the vacuum blower. A recycle loop will allow the discharge from the blower to be recycled back to the blower inlet. The recycle loop can be used to decrease the overall flow rate extracted from the SVE well(s) without

decreasing pressure. A moisture separator and a particulate air filter will be positioned upstream of the blower to remove entrained water or particulates from the air stream.

The SVE wells will be connected to the blower and emissions control equipment using PVC piping and heavy-wall flexible tubing. Conveyance piping will be sized adequately to minimize flow restrictions and pressure losses to the vapor stream.

A commercially available skid-mounted emission control unit equipped with three 2,000 pound vessels filled with granular activated carbon will be leased for the period of the tests. Monitoring of the emissions control unit will be conducted in accordance with BAAQMD permit conditions.

4.2.5.6 Instrumentation and Monitoring

Parameters that will be monitored during the pilot test include the following:

- Air pressure (vacuum);
- Air flowrate;
- Extracted air temperature;
- Oxygen and carbon dioxide levels; and
- VOC concentration.

SVE wells/vapor monitoring probes will be instrumented with vacuum gauges to measure pressure changes in the vadose zone. A range of gauges with different scales will be available during the tests to allow measurement of a range of vacuum. The maximum gauge sensitivity will be 0.01 in-H_2O. Barometric pressure data will be obtained before and during the baseline and extraction tests to record potential fluctuations in atmospheric pressures. The SVE well vacuum will be monitored with a gauge connected to a sample port. The vacuum at the blower will be measured to detect line pressure drop and to monitor loads on the blower.

4.2.5.6.1 Extraction System Vapor Flow Monitoring

The vapor flow rate of the extraction system will be monitored with a pitot tube and differential pressure gauge installed in the conveyance piping or a hot wire anemometer. Flow rates will also be monitored at the dilution valve to document the total system flow. Temperature gauges will be located in the conveyance piping near each monitoring location.

4.2.5.6.2 Extraction System Field Monitoring

Screening-level samples will be collected from the SVE well and vapor monitoring probes before, during and after each SVE test sequence. Samples will be collected in 1-liter Tedlar bags for total VOC monitoring with a field OVA or PID equipped with a 10.6 electronvolt (eV) lamp. Samples will be collected using a vacuum pump connected to a vacuum chamber

housing the Tedlar bag. The Tedlar bag will be connected to the SVE well/probe sampling port using inert Teflon tubing that passes through the wall of the vacuum chamber. To retrieve a vapor sample under vacuum and overcome the vacuum in the extraction well or monitoring probe, a small vacuum pump will be connected to the chamber and a vacuum developed. When the vacuum in the chamber exceeds the vacuum in the SVE well/probe, soil vapor will flow from the well/probe into the Tedlar bag contained in the chamber. Once filled, the Tedlar bag will be connected to a calibrated PID and a total VOC measurement will be made and recorded.

Oxygen and carbon dioxide concentrations will be measured in samples collected from the SVE wells/probes before, during, and after each testing sequence using a Gastech meter. The purpose of the oxygen/carbon dioxide monitoring will be to record the degree of flushing of the vadose zone that may result from the movement of fresh air into the subsurface during SVE pilot testing.

4.2.6 Full-Scale Soil Vapor Extraction

As noted, pilot study SVE results will be used to verify full-scale SVE implementation within the southwest portion of the site. The spacing, locations, and number of SVE wells currently anticipated is based on PES' experience conducting SVE at other sites.

4.2.6.1 Installation of Soil Vapor Extraction/Inlet (SVE/I) Wells

Pending confirmation via the pilot study, a total of twenty six (26) additional wells comprised of sixteen (16) SVE wells and ten (10) air inlet wells will be installed at the approximate locations shown on Plate 3. The number and spacing the SVE wells may be adjusted depending on the results of the SVE pilot testing.

Extraction Wells

The extraction well locations have been selected to target the area of highest concentrations of chlorinated VOCs detected in soil vapor at the southwestern portion of the site, specifically, vinyl chloride where detected above the commercial/industrial soil vapor ESL. The isoconcentration contours for vinyl chloride in soil vapor at 5-feet bgs and 10-feet bgs are shown on Plates 6A and 6B, respectively (the detected concentrations for each sample are shown on Plates 10A and 10B, and in Table 2 of the Subsurface Investigation Report, presented in Appendix A). As shown on Plates 6A and 6B, the well spacing reflects PES' conservative preliminary estimate of a 20-foot radius of influence (ROI) for the SVE wells based on PES' prior experience conducting SVE in fine-grained soils. As noted in Section 2.3, the fill material beneath the site consists primarily of coarse-grained sands and gravels that contain varying amounts of fines, and fine-grained silts and clays. Therefore, the estimated ROI of 20 feet is conservative.

Air Inlet Wells

As shown on Plates 6A and 6B, air inlet wells (I wells) will be located in select perimeter and interior locations and designed to be open to the atmosphere to allow air to be passively drawn to the subsurface and enhance the replenishment of oxygen and air movement through the soil during operation of the SVE system (USEPA, 1991a). The wells will be capped when not in use or SVE operations are not being conducted.

The borings for the SVE/I wells will be advanced using nominal 10-inch diameter hollow stem augers. The SVE/I wells will be installed within the vadose zone (estimated to extend to 10-feet bgs). Each SVE/I well will contain 2-inch diameter Schedule 40 PVC casing with 0.020-inch slots. The proposed screen interval for the SVE/I wells will be from approximately 5 to 10 feet bgs. However, the final completion depth may be modified based on field observations of saturated conditions. The proposed well completion detail for the SVE/I wells are presented in Plate 4.

4.2.6.2 Periodic Soil Vapor Monitoring

Vapor samples will be periodically collected from SVE wells and monitoring probes for laboratory analysis. SVE well samples for laboratory analysis will be collected in clean, evacuated 1-liter Summa canisters provided by the selected laboratory. The Summa canisters will be evacuated to a full vacuum (approximately 30 inches of mercury or 406 in-H_2O) before use. To collect a sample, the canister will be connected to the extraction well sample port with inert Teflon tubing, and then the canister valve will be opened. The high vacuum in the canister will draw soil vapor from the well until equilibrium is reached. The valve will then be closed and the canister shipped to the laboratory under standard chain of custody procedures. Samples will be analyzed for VOCs using USEPA Method TO-15 by a California state-certified analytical laboratory.

4.2.7 Equipment Decontamination and Management of Investigation-Derived Wastes

Materials generated during the pilot study and full-scale implementation of SVE will be temporarily stored at a secure location on-site in clearly labeled, covered and lockable bins, tanks, or 55-gallon drums. Handling, storage, and subsequent management of the investigation-derived wastes (IDW) will be conducted in accordance with applicable federal, state and local regulations. IDW will be analyzed at a minimum for VOCs via USEPA Test Method 8260B. Spent carbon will be analyzed prior to transport off-Site to an appropriate facility for disposal or recycling in accordance with the results of the laboratory analytical results.

5.0 INTERIM REMEDIAL MEASURE PERFORMANCE CRITERIA

The IRM SVE system will be constructed and operated at the site with the objective to reduce concentrations of VOCs in the subsurface to levels that are protective of human health and the environment. As noted above in Section 3.6, the HHRA previously prepared for the site will be updated using the results of the soil, soil vapor and groundwater sampling conducted as part

of the investigations summarized in the Subsurface Investigation Report. The updated HHRA prepared for the site will be submitted to ACEH for approval. IRM SVE should be conducted to reduce concentrations of VOCs beneath the site to acceptable risk-based levels as determined through the updated HHRA. Upon completion of the updated HHRA, the risk-based IRM performance criteria will be provided to ACEH in an addendum to this Work Plan.

6.0 SCHEDULE

The tentative schedule for implementation of the proposed scope of work is as follows:

- Within two weeks following ACEH approval of this Work Plan: (1) the applications for the soil vapor extraction construction and testing permits will be submitted to the City of Emeryville and BAAQMD; and (2) subcontractor services will be retained and scheduled for proposed soil vapor extraction activities;

- Pending ACEH approval of this Work Plan, obtaining the above-described permits, and assuming subcontractor availability, the soil vapor extraction pilot test should be completed within 2 to 3 days;

- A report will be prepared presenting a description of the methods, procedures, and results of the SVE pilot test. The report will also provide tabulated data, illustrations of contaminant distributions, laboratory reports, findings of the completed scope of work, recommendations, and an SVE system basis for design and operation, as appropriate. The report will be submitted to ACEH approximately four to six weeks after receipt of laboratory analytical reports;

- Construction of the full-scale IRM SVE system will be conducted based on the results of the SVE pilot tests and following ACEH approval. Operation of the IRM SVE system will commence following completion of the construction activities; and

- An IRM SVE Construction Completion Report will be prepared and submitted to ACEH following completion of the IRM SVE system. The IRM SVE Construction Completion Report will be submitted to ACEH within 4 weeks of completion of construction activities.

7.0 REFERENCES

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ILLUSTRATIONS

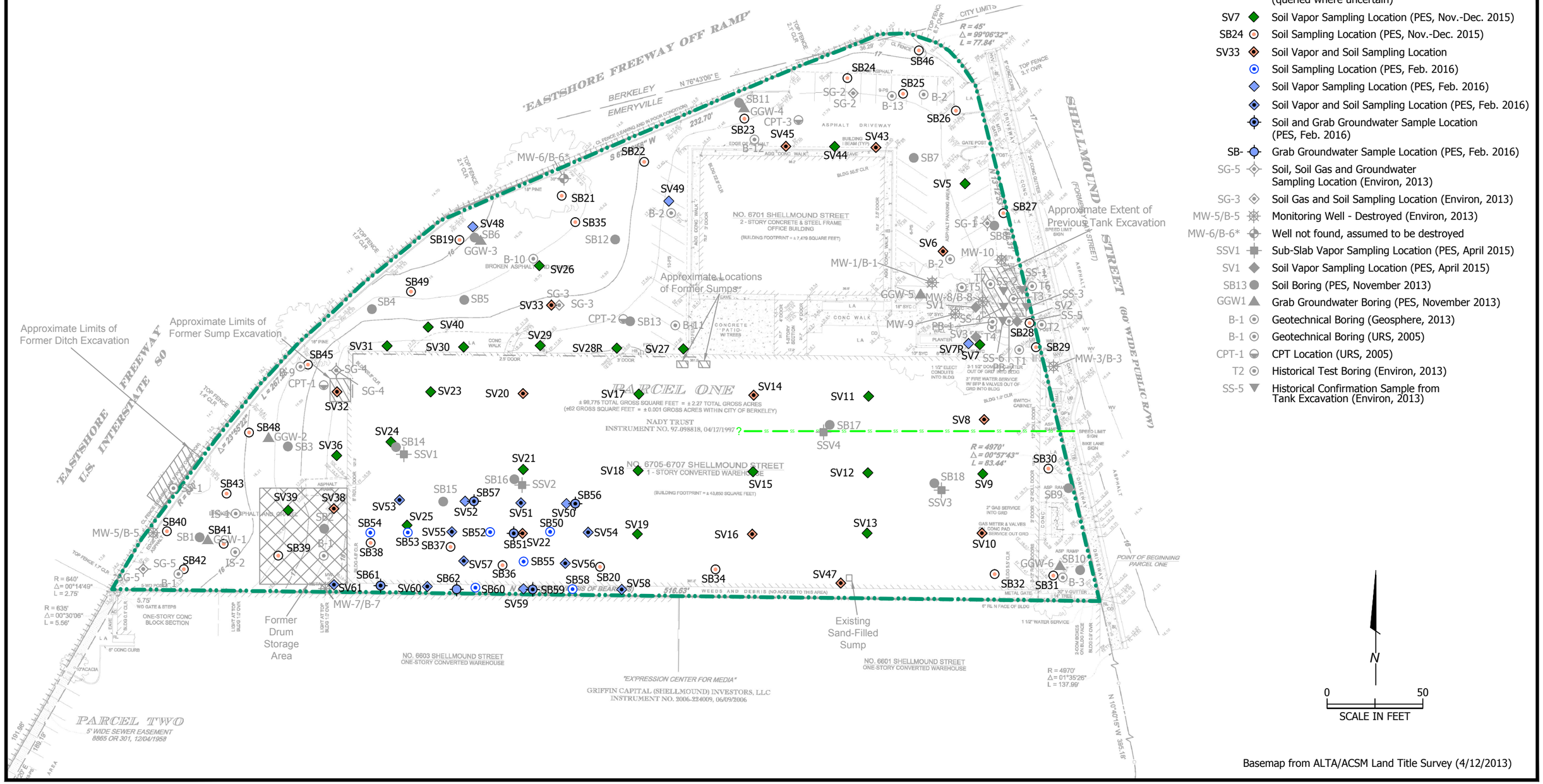
U.S.G.S. Topo Map - Oakland West, California, 7.5-minute quadrangle.1997

PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
1

1448.001.01.019	144800101033_OSWP_1-2	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Assumed Former Drain Line Location
- Approximate Location of Existing Sewer Line (queried where uncertain)
- SV7 — Soil Vapor Sampling Location (PES, Nov.-Dec. 2015)
- SB24 — Soil Sampling Location (PES, Nov.-Dec. 2015)
- SV33 — Soil Vapor and Soil Sampling Location
- Soil Sampling Location (PES, Feb. 2016)
- Soil Vapor Sampling Location (PES, Feb. 2016)
- Soil Vapor and Soil Sampling Location (PES, Feb. 2016)
- Soil and Grab Groundwater Sample Location (PES, Feb. 2016)
- SB- — Grab Groundwater Sample Location (PES, Feb. 2016)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- MW-5/B-5 — Monitoring Well - Destroyed (Environ, 2013)
- MW-6/B-6* — Well not found, assumed to be destroyed
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SB13 — Soil Boring (PES, November 2013)
- GGW1 — Grab Groundwater Boring (PES, November 2013)
- B-1 — Geotechnical Boring (Geosphere, 2013)
- B-1 — Geotechnical Boring (URS, 2005)
- CPT-1 — CPT Location (URS, 2005)
- T2 — Historical Test Boring (Environ, 2013)
- SS-5 — Historical Confirmation Sample from Tank Excavation (Environ, 2013)

Basemap from ALTA/ACSM Land Title Survey (4/12/2013)

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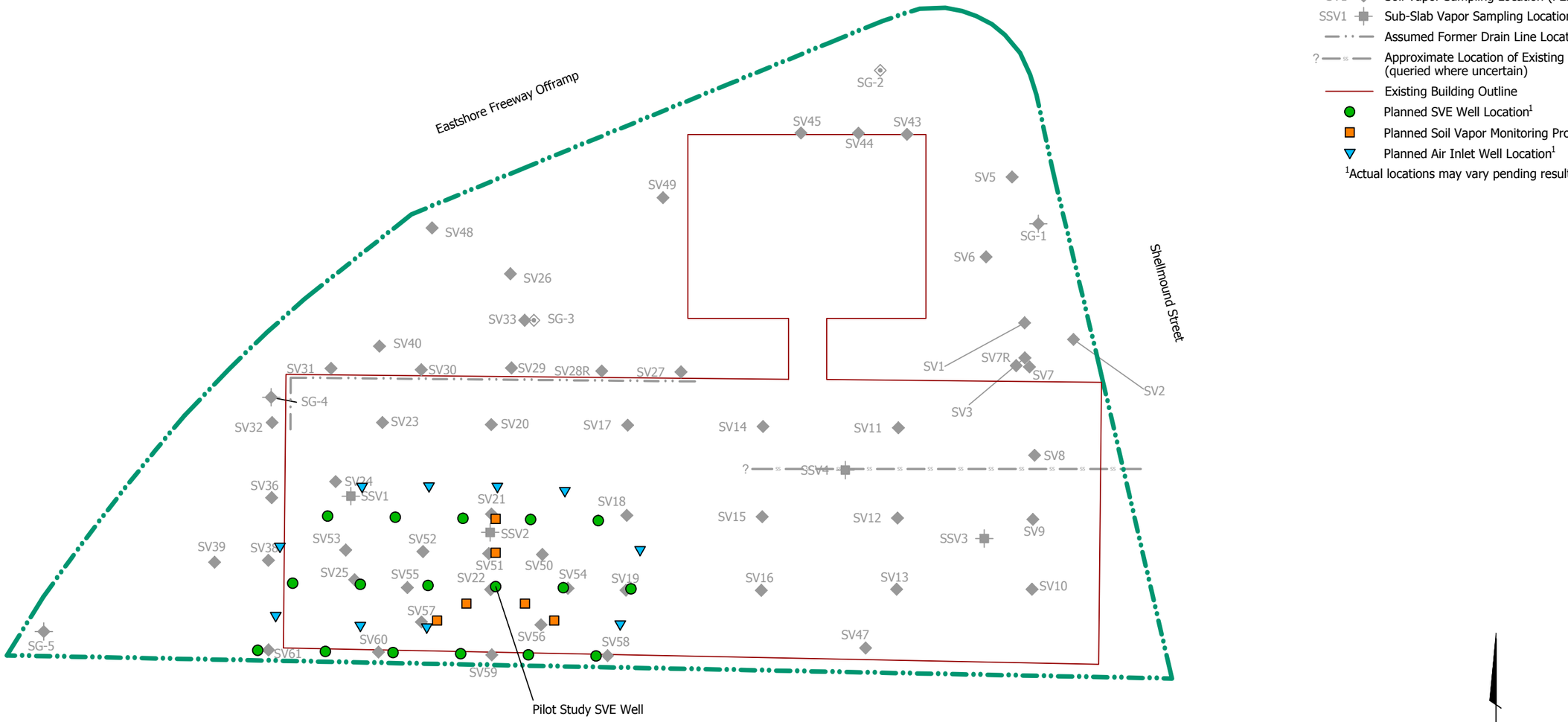
Site Plan With Prior Sample Locations
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
2

1448.001.01.033	144800101033_OSWP_1-2	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



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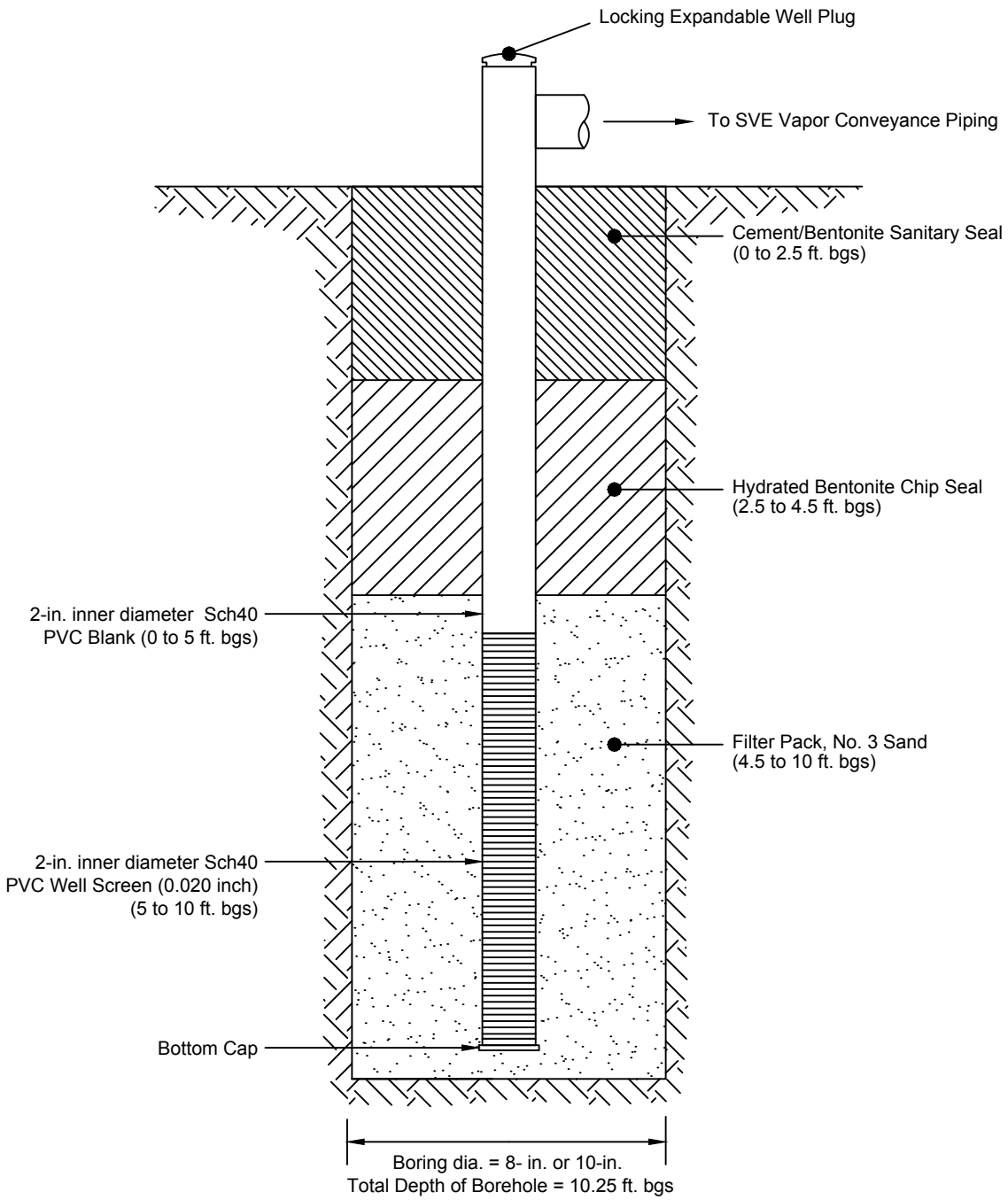
Planned Soil Vapor Extraction Well, Inlet Well and Soil Vapor Probe Locations
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
3

1448.001.01.033	144800101033_OSWP_3	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Not to Scale

PES Environmental, Inc.
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Construction Details for Soil Vapor Extraction/Inlet Well (Typical)
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
4

1448.001.01.033	144800101033_OSWP_4-5	CJB	4/16
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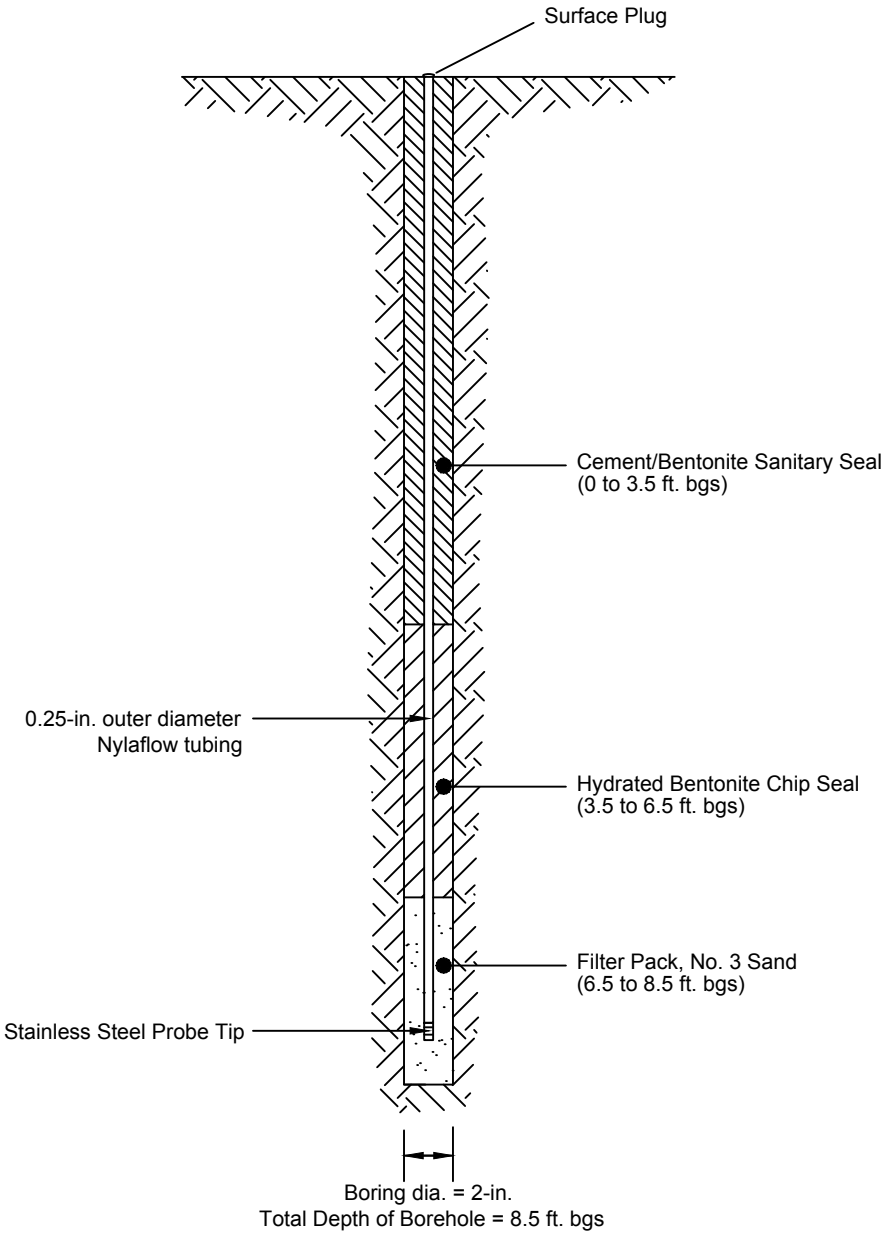

Not to Scale

PES Environmental, Inc.
Engineering & Environmental Services

Construction Details for Soil Vapor Monitoring Probe (Typical)
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
5

1448.001.01.033	144800101033_OSWP_4-5	CJB	4/16
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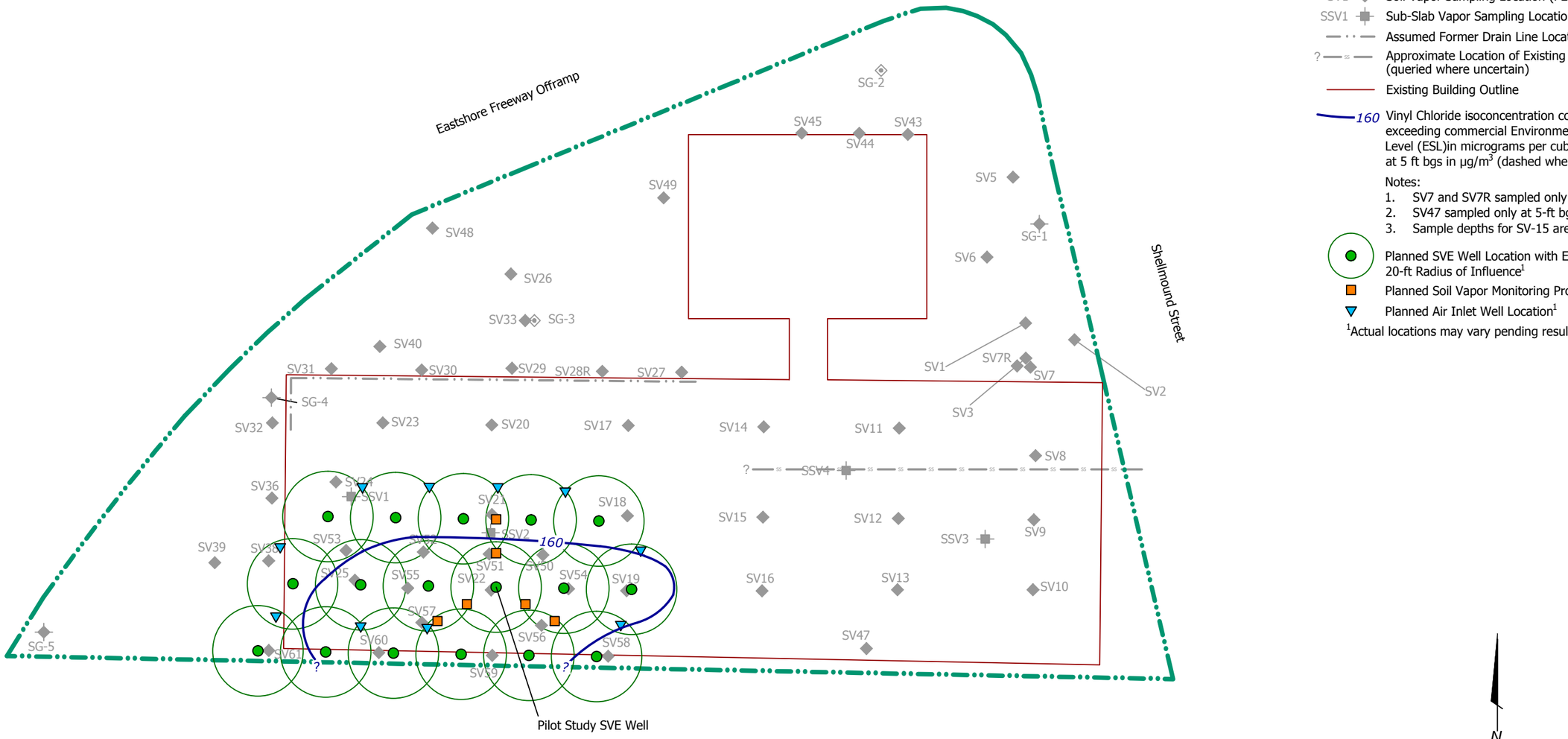

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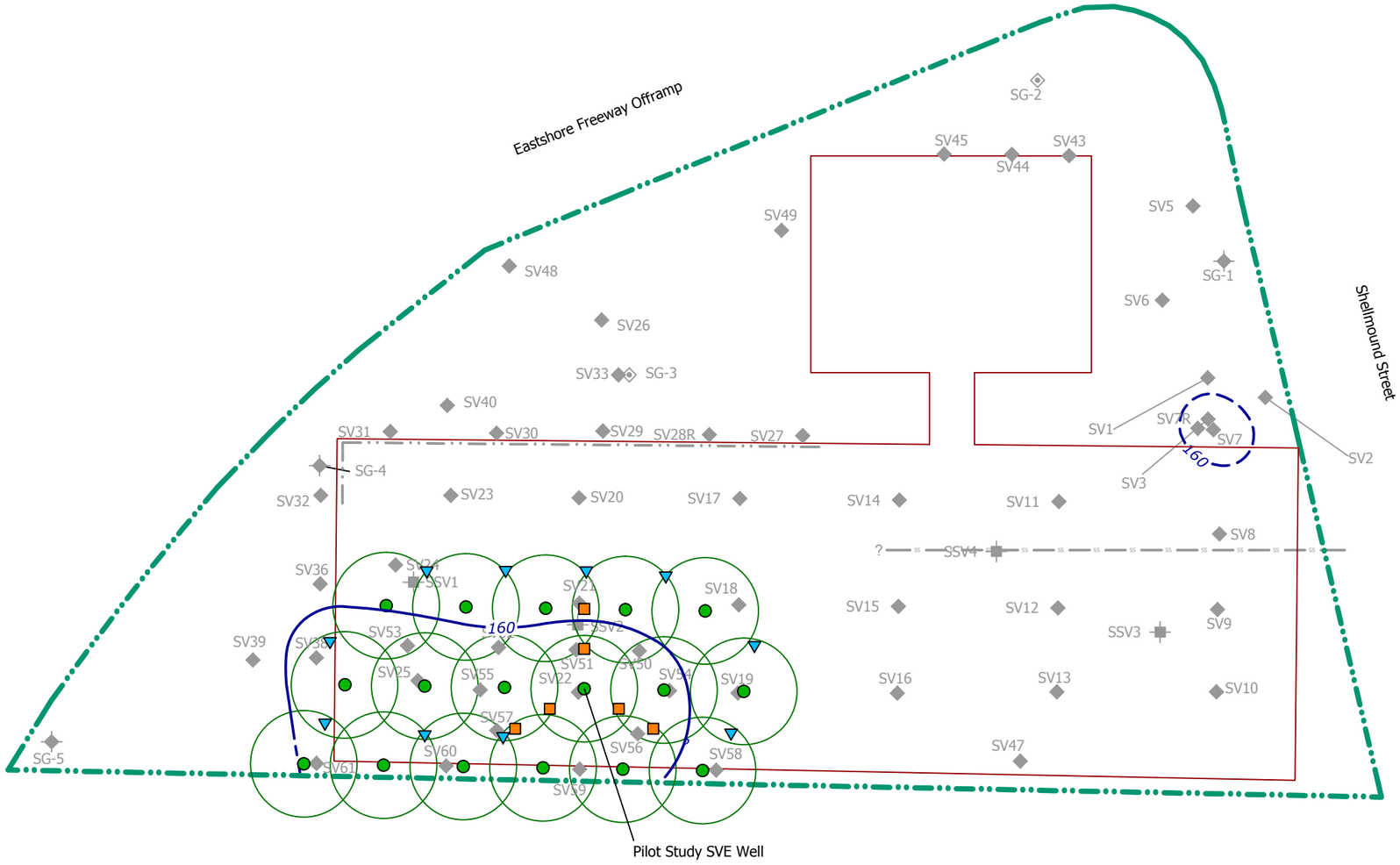
Conceptual Vapor Extraction Coverage for SVE Wells with Isoconcentration Contours - Vinyl Chloride at 5 ft bgs
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
6A

1448.001.01.033	144800101033_OSWP_6AB	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location - Destroyed (Environ)
- SG-3 — Soil Gas and Soil Sampling Location - Destroyed (Environ)
- SV1 — Soil Vapor Sampling Location (PES)
- SSV1 — Sub-Slab Vapor Sampling Location (PES)
- Assumed Former Drain Line Location
- ? — Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- 160 — Vinyl Chloride isoconcentration contour for soil vapor exceeding commercial Environmental Screening Level (ESL)in micrograms per cubic meter (µg/m^3) at 5 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. SV7 and SV7R sampled only at 10-ft bgs.
2. SV47 sampled only at 5-ft bgs.
3. Sample depths for SV-15 are 5-ft and 8-ft bgs.

- Planned SVE Well Location with Estimated 20-ft Radius of Influence[1]
- Planned Soil Vapor Monitoring Probe Location[1]
- Planned Air Inlet Well Location[1]

[1]Actual locations may vary pending results of Pilot Study

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SCALE IN FEET

Basemap: Luk and Associates, 2015

PES Environmental, Inc.
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Conceptual Vapor Extraction Coverage for SVE Wells with Isoconcentration Contours - Vinyl Chloride at 10 ft bgs
Work Plan for Soil Vapor Extraction
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
6B

1448.001.01.033	144800101033_OSWP_6AB	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

PERTINENT DATA FROM PREVIOUS INVESTIGATION REPORTS

Table 2
Summary of Soil Vapor Analytical Results
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street, Emeryville, California

Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	PCE ($\mu g/m^3$)	TCE ($\mu g/m^3$)	cis-1,2-DCE ($\mu g/m^3$)	trans-1,2-DCE ($\mu g/m^3$)	Vinyl chloride ($\mu g/m^3$)	1,1,1-TCA ($\mu g/m^3$)	1,1,2,2-PCA ($\mu g/m^3$)	MEK ($\mu g/m^3$)	MIBK ($\mu g/m^3$)	Acetone ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	m,p-Xylene ($\mu g/m^3$)	o-Xylene ($\mu g/m^3$)	1,2,4-TMB ($\mu g/m^3$)	1,3,5-TMB ($\mu g/m^3$)	4-Ethyltoluene ($\mu g/m^3$)	Carbon disulfide ($\mu g/m^3$)	Chloroform ($\mu g/m^3$)	Other VOCs ($\mu g/m^3$)	Carbon Dioxide (% v/v)	Methane (% v/v)	Oxygen (% v/v)	Helium (% v/v)
SV5	SV5-5	5.0	12/2/2015	< 2.7	< 2.1	< 1.6	< 1.6	< 1	< 1.6	< 2.7	**55**	< 1.6	**120**	**12**	**8.9**	**2.6**	**25**	**3.8**	**8.5**	**3.2**	< 2	**3.9**	**7.2**	ND	**4.1**	< 0.96	**17**	**1.5**
	SV5-10	10.0	12/2/2015	< 4.6	< 3.6	< 2.7	< 2.7	< 1.7	< 2.8	< 4.6	**43**	< 2.8	**76**	< 2.1	**2.9**	< 2.9	< 5.8	< 2.9	< 6.6	< 3.3	< 3.3	< 4.2	**10**	ND	--	--	--	< 0.17
SV6	SV6-5	5.0	12/2/2015	< 4.6	< 3.7	**5.4**	< 2.7	< 1.7	< 2.8	< 4.7	**73**	< 2.8	**270**	**31**	**16**	**3.2**	**9.3**	< 3	< 6.7	< 3.4	< 3.4	**120**	**21**	**3.9 (Freon 21)**	--	--	--	< 0.17
	SV6-10	10.0	12/2/2015	< 6.2	< 4.9	< 3.6	< 3.6	< 2.3	< 3.7	< 6.3	**12**	< 3.8	**37**	< 2.9	< 3.5	< 4	< 8	< 4	< 9	< 4.5	< 4.5	< 5.7	< 3.4	**4.8 (Freon 21)**	--	--	--	**0.57**
SV7	SV7-10	10.0	12/2/2015	< 2,100	< 1,700	< 1,300	< 1,300	< 810	< 1,300	< 2,200	< 1,900	**88,000**	< 9,400	< 1,000	< 1,200	< 1,400	< 2,700	< 1,400	< 3,100	< 1,600	< 1,600	< 2,000	< 1,200	ND	--	--	--	< 0.17
SV7R	SV7R-10	10.0	2/4/2016	< 7.5	< 6.0	< 4.4	< 4.4	< 2.8	< 4.5	< 7.6	**17**	**250**	**43**	**18**	**39**	**5.3**	**22**	**9.1**	< 11	< 5.4	< 5.4	< 6.9	< 4.1	**8.8 (Freon 12), 4.2 (MC)**	**8.2**	< 0.86	**5.9**	< 0.17
SV8	SV8-5	5.0	12/3/2015	**7.8**	< 2.1	**7.0**	**9.1**	**110**	< 1.6	< 2.7	**4.0**	< 1.6	**76**	**11**	**13**	< 1.7	**5.4**	**1.9**	< 3.9	< 2	< 2	**33**	< 1.5	**2.9 (CM), 3.2 (MC)**	**1.0**	**0.69**	**1.4**	< 0.1
	SV8-10	10.0	12/3/2015	< 8.6	< 6.8	< 5	< 5	**7.8**	< 5.2	< 8.7	**35**	< 5.2	**200**	**4.8**	**9.7**	< 5.5	< 11	< 5.5	< 12	< 6.2	< 6.2	**18**	< 4.6	ND	**2.2**	**1.6**	**4.3**	< 0.19
SV9	SV9-5	5.0	12/2/2015	< 12	< 9.9	< 7.3	< 7.3	< 4.7	< 7.5	< 13	**100**	**840**	**500**	**8.2**	**23**	< 8	**20**	< 8	< 18	< 9	< 9	< 11	< 6.7	ND	--	--	--	**0.93**
	SV9-10	10.0	12/2/2015	< 5.4	< 4.3	< 3.2	< 3.2	< 2	< 3.3	< 5.5	**48**	**140**	**160**	< 2.6	**3.9**	< 3.5	**7.5**	**3.9**	< 7.9	< 3.9	< 3.9	< 5	< 2.9	ND	--	--	--	**0.67**
SV10	SV10-5	5.0	12/2/2015	< 21	< 16	**22**	< 12	< 7.8	< 12	< 21	**67**	**300**	**630**	**30**	**26**	< 13	< 26	< 13	< 30	< 15	< 15	< 19	< 11	ND	**3.3**	**2.4**	**1.8**	**0.76**
	SV10-10	10.0	12/2/2015	**59**	< 6.6	**4.8**	< 4.9	< 3.1	< 5	< 8.5	**41**	**68**	**180**	**150**	**11**	< 5.3	< 11	**5.9**	< 12	**7.1**	< 6.1	< 7.7	< 4.5	ND	**5.3**	< 0.96	**1.7**	**0.71**
SV11	SV11-5	5.0	12/3/2015	< 16	< 13	**43**	< 9.5	< 6.1	< 9.8	< 16	**81**	< 9.8	**330**	**84**	**13**	< 10	**27**	< 10	< 24	< 12	< 12	**170**	< 8.8	ND	**3.6**	**2.5**	**2.3**	**0.44**
	SV11-10	10.0	12/3/2015	< 42	< 33	< 24	< 24	< 16	< 25	< 42	**140**	< 25	**770**	**900**	**85**	< 27	< 53	< 27	< 61	< 30	< 30	< 38	< 23	ND	**1.7**	**6.1**	**1.9**	< 0.19
SV12	SV12-5	5.0	12/3/2015	< 13	< 10	< 7.7	< 7.7	< 5.0	< 8	< 13	**37**	< 8	**300**	**40**	**15**	< 8.4	< 17	< 8.4	< 19	< 9.6	< 9.6	**63**	< 7.1	ND	--	--	--	**0.56**
	SV12-10	10.0	12/3/2015	< 11	< 8.3	< 6.2	< 6.2	< 4.0	< 6.4	< 11	**58**	< 6.4	**190**	**7.1**	**7.8**	< 6.7	< 13	< 6.7	< 15	< 7.6	< 7.6	**26**	< 5.7	ND	--	--	--	**0.64**
SV13	SV13-5	5.0	12/2/2015	< 19	< 15	< 11	< 11	< 7.3	< 12	< 20	**65**	< 12	**380**	**17**	**48**	< 12	**160**	< 12	< 28	< 14	< 14	**31**	< 10	ND	**1.1**	**13**	**1.6**	**0.90**
	SV13-10	10.0	12/2/2015	< 12	< 9.8	< 7.3	< 7.3	< 4.7	< 7.5	< 13	**55**	< 7.5	**420**	**36**	**67**	**8.4**	**27**	**8.5**	< 18	< 9	< 9	**44**	< 6.7	ND	< 1	**15**	**1.8**	< 0.2
SV14	SV14-5	5.0	12/2/2015	< 26	< 21	< 15	< 15	< 9.8	< 16	< 26	**96**	< 16	**590**	**83**	**32**	< 17	< 33	< 17	< 38	< 19	< 19	**140**	< 14	ND	**2.0**	< 0.96	**19**	< 0.19
	SV14-10	10.0	12/2/2015	< 26	< 20	< 15	< 15	< 9.7	< 16	< 26	**64**	< 16	**530**	**610**	**71**	**28**	**110**	**23**	< 37	< 19	< 19	< 24	< 14	ND	**1.9**	**13**	**1.7**	**1.2**
SV15	SV15-5	5.0	12/2/2015	< 62	< 49	< 36	< 36	< 23	< 37	< 63	**56**	**310**	**2,400**	**39**	< 34	< 40	< 79	< 40	< 90	< 45	< 45	**71**	< 33	ND	--	--	--	< 0.18
	SV15-8	8.0	12/2/2015	< 18	< 14	**24**	< 10	< 6.6	< 11	< 18	< 15	< 11	**460**	**120**	**49**	**19**	**54**	**22**	< 25	< 13	< 13	**190**	< 9.5	ND	--	--	--	< 0.19
SV16	SV16-5	5.0	12/2/2015	< 31	< 25	< 18	< 18	< 12	< 19	< 31	**64**	< 19	**630**	**59**	**43**	< 20	< 40	< 20	< 45	< 22	< 22	**28**	< 17	ND	**5.6**	**39**	**1.3**	< 0.18
	SV16-10	10.0	12/2/2015	< 12	< 9.5	**13**	< 7.0	**5.4**	< 7.2	< 12	**77**	< 7.2	**590**	< 5.6	**20**	**8.9**	**27**	**8.5**	< 17	< 8.7	< 8.7	< 11	< 6.4	**9 (1,1-DCA)**	**2.3**	**27**	**1.3**	**0.81**
SV17	SV17-5	5.0	12/1/2015	< 18	< 14	< 10	< 10	< 6.7	< 11	< 18	**93**	< 11	**400**	**130**	**120**	**24**	**130**	**26**	< 26	< 13	< 13	**120**	**31**	ND	--	--	--	< 0.2
	SV17-10	10.0	12/1/2015	< 67	< 53	< 39	< 39	< 25	< 40	**120**	< 58	< 40	< 290	**4,200**	**180**	< 43	< 86	< 43	< 97	< 49	< 49	< 62	< 36	ND	--	--	--	< 0.2
SV18	SV18-5	5.0	12/2/2015	< 17	< 14	**29**	< 10	**83**	< 10	< 18	**100**	< 11	**780**	**210**	**32**	< 11	**43**	< 11	< 25	< 13	< 13	**120**	< 9.4	ND	--	--	--	< 0.18
	SV18-10	10.0	12/2/2015	< 11	< 8.9	< 6.6	< 6.6	**57**	< 6.8	< 11	**72**	< 6.8	**380**	**84**	**39**	**8.9**	**27**	**9.2**	< 16	< 8.2	< 8.2	**280**	< 6.1	**20 (CM)**	--	--	--	**0.29**
SV19	SV19-5	5.0	12/1/2015	< 19	< 15	**14**	< 11	**650**	< 11	< 19	**150**	< 11	**760**	**300**	**59**	< 12	**68**	**13**	< 28	< 14	< 14	**66**	< 10	ND	**9.7**	**52**	**0.96**	< 0.17
	SV19-10	10.0	12/1/2015	< 20	**34**	**170**	< 12	**47**	< 12	< 20	**44**	< 12	**180**	**760**	**53**	< 13	**45**	**12**	< 29	< 14	< 14	**110**	< 11	ND	**1.8**	**75**	**0.87**	< 0.18
SV20	SV20-5	5.0	12/1/2015	< 57	< 45	< 33	< 33	**23**	< 35	< 58	**110**	< 35	**960**	**120**	**58**	< 37	< 73	< 37	< 83	< 41	< 41	**120**	< 31	ND	**5.0**	**20**	**2.3**	< 0.17
	SV20-10	10.0	12/1/2015	< 13	< 11	**25**	< 7.9	**19**	< 8.1	< 14	**54**	< 8.1	**230**	**110**	**65**	**9.9**	**40**	**11**	< 19	< 9.7	< 9.7	**60**	< 7.3	**7.9 (MC)**	**5.1**	**22**	**1.6**	< 0.17
SV21	SV21-5	5.0	12/1/2015	< 20	**17**	**70**	< 12	**48**	< 12	< 20	**83**	< 12	**620**	**62**	**54**	< 13	< 26	< 13	< 29	< 14	< 14	**120**	**23**	ND	--	--	--	< 0.19
	SV21-10	10.0	12/1/2015	< 14	**20**	**75**	< 8.2	**140**	< 8.5	< 14	**64**	< 8.5	**290**	**42**	**48**	< 9	**67**	< 9	< 20	< 10	< 10	**260**	< 7.6	ND	--	--	--	< 0.17
SV22	SV22-5	5.0	12/1/2015	< 2,600	< 2,000	< 1,500	< 1,500	**83,000**	< 1,500	< 2,600	< 2,200	< 1,500	< 11,000	< 1,200	< 1,400	< 1,600	< 3,300	< 1,600	< 3,700	< 1,900	< 1,900	< 2,400	< 1,400	ND	**11**	**35**	**1.4**	< 0.19
	SV22-10	10.0	12/1/2015	< 1,200	< 940	**1,500**	**1,200**	**35,000**	< 710	< 1,200	< 1,000	< 710	< 5,200	< 560	< 660	< 760	< 1,500	< 760	< 1,700	< 860	< 860	< 1,100	< 640	ND	< 0.87	**44**	**1.3**	**0.41**
SV23	SV23-5	5.0	11/30/2015	< 17	< 13	**110**	**33**	**14**	< 10	< 17	**47**	< 10	**210**	**970**	**35**	**16**	**36**	**11**	< 25	< 12	< 12	**18**	< 9.1	**18 (1,4-DCB)**	**10**	< 1	**2.0**	< 0.2
	SV23-10	10.0	11/30/2015	< 9.8	< 7.7	< 5.7	< 5.7	< 3.7	< 5.9	< 9.9	**110**	< 5.9	**410**	**27**	**34**	< 6.3	**18**	**6.0**	< 14	< 7.1	< 7.1	**9.0**	**8.5**	ND	**5.2**	< 0.98	**11**	< 0.2
SV24	SV24-5	5.0	11/30/2015	< 12	< 9.5	< 7	< 7	< 4.5	< 7.3	< 12	**120**	< 7.3	**560**	**12**	**32**	< 7.7	**18**	< 7.7	< 17	< 8.7	< 8.7	< 11	< 6.5	ND	--	--	--	< 0.19
	SV24-10	10.0	11/30/2015	< 12	< 9.3	< 6.8	< 6.8	< 4.4	< 7.1	< 12	**100**	< 7.1	**490**	**100**	**110**	**95**	**280**	**180**	**190**	**76**	**61**	**74**	< 6.3	ND	--	--	--	< 0.19
SV25	SV25-5	5.0	12/1/2015	< 130	< 100	**130**	< 77	**7,300**	< 79	< 130	< 110	< 79	**1,200**	**110**	< 73	< 84	< 170	< 84	< 190	< 95	< 95	< 120	< 71	ND	--	--	--	< 0.19
	SV25-10	10.0	12/1/2015	< 260	**300**	**2,100**	**210**	**11,000**	< 160	< 270	< 230	< 160	< 1,200	**160**	< 150	< 170	< 340	< 170	< 380	< 190	< 190	< 240	< 140	ND	--	--	--	< 0.17
SV26	SV26-5	5.0	12/1/2015	< 6.4	**5.8**	**28**	< 3.7	**14**	< 3.9	< 6.5	**63**	< 3.9	**290**	**240**	**35**	**18**	**120**	**18**	**17**	**10**	< 4.6	**130**	< 3.5	ND	**1.4**	**2.3**	**9.5**	< 0.16
	SV26-10	10.0	12/1/2015	< 42	< 33	**26**	< 24	**72**	< 25	< 42	< 36	< 25	< 180	**30**	**25**	< 27	**110**	**45**	**180**	**82**	**38**	< 38	< 22	**56 (CB)**	**2.8**	**3.3**	**1.8**	< 0.18
SV27	SV27-5	5.0	11/30/2015	< 4.3	**5.3**	< 2.5	< 2.5	< 1.6	< 2.6	< 4.4	**26**	< 2.6	**180**	**7.8**	**44**	< 2.8	**15**	**2.8**	< 6.3	< 3.1	< 3.1	**9.8**	< 2.3	**4.7 (2-Hexanone)**	--	--	--	< 0.16
	SV27-10	10.0	11/30/2015	< 7.7	< 6.1	**8.2**	< 4.5	**10**	< 4.6	< 7.8	**11**	< 4.7	**110**	**9.8**	**15**	< 4.9	**10**	< 4.9	< 11	< 5.6	< 5.6	**16**	< 4.2	ND	--	--	--	< 0.16
SV28R	SV28R-5	5.0	12/3/2015	< 11	< 8.4	**11**	< 6.2	**23**	< 6.4	< 11	**33**	< 6.4	**220**	**18**	**110**	**82**	**420**	**64**	**46**	**35**	**8.3**	**17**	< 5.7	ND	**1.0**	**13**	**2.0**	**0.58**
	SV28R-10	10.0	12/3/2015	< 2.7	< 2.1	**1.7**	< 1.6	**83**	< 1.6	< 2.7	< 2.4	< 1.6	**27**	< 1.3	< 1.5	< 1.7	< 3.5	< 1.7	< 3.9	< 2	< 2	< 2.5	< 1.5	**7.5 (DCFM)**	< 0.97	**21**	**1.4**	< 0.19
SV29	SV29-5	5.0	11/30/2015	< 5.1	< 4.0	< 3.0	< 3.0	< 1.9	< 3.1	< 5.2	**31**	< 3.1	**210**	**10**	**27**	**11**	**200**	**5.8**	**7.3**	< 3.7	< 3.7	**30**	**14**	ND	--	--	--	< 0.19
	SV29-10	10.0	11/30/2015	< 5.0	**6.2**	< 2.9	< 2.9	< 1.9	< 3	< 5	**30**	< 3	**160**	**35**	**21**	**8.0**	**47**	**7.8**	**7.1**	**5.1**	< 3.6	**63**	< 2.7	**3.4 (MC)**	--	--	--	< 0.18
SV30	SV30-5	5.0	12/1/2015	< 5.7	**110**	**6.7**	**3.4**	< 2.1	< 3.4	< 5.8	**22**	< 3.4	**110**	**12**	**11**	< 3.6	**11**	< 3.6	< 8.3	< 4.1	< 4.1	**41**	**7.3**	ND	--	--	--	< 0.17
	SV30-10	10.0	12/1/2015	< 12	**23**	**28**	**13**	**33**	< 7.4	< 12	**30**	< 7.4	**130**	**67**	**24**	**8.0**	**21**	**8.6**	< 18	< 8.9	< 8.9	**97**	**6.8**	**33 (1,1-DCE), 10 (Freon 11)**	--	--	--	< 0.18
SV31	SV31-5	5.0	12/1/2015	< 4.6	**13**	< 2.7	< 2.7	< 1.7	< 2.8	< 4.7	**13**	< 2.8	**75**	**13**	**19**	**4.0**	**14**	**6.3**	< 6.7	< 3.4	< 3.4	**21**	**8.5**	**3.5 (MC)**	--	--	--	< 0.17
	SV31-10	10.0	12/1/2015	< 2.7	**23**	< 1.6	**2.8**	< 1	< 1.6	< 2.7	**4.8**	< 1.6	**38**	**17**	**15**	**4.0**	**22**	**6.6**	< 3.9	< 2.0	< 2.0	**11**	**11**	**4 (CM)**	--	--	--	< 0.16
SV32	SV32-5	5.0	12/1/2015	< 8.8	**11**	< 5.1	< 5.1	< 3.3	< 5.3	< 8.9	**22**	< 5.3	**150**	**14**	**16**	< 5.6	< 11	< 5.6	< 13	< 6.4	< 6.4	**8.0**	**19**	ND	--	--	--	< 0.16
	SV32-10	10.0	12/1/2015	< 19	< 15	< 11	< 11	< 7.2	< 12	< 19	**49**	< 12	**330**	**43**	**17**	< 12	< 24	< 12	< 28	< 14	< 14	< 18	< 10	ND	--	--	--	< 0.17
SV33	SV33-5	5.0	12/1/2015	< 22	< 18	< 13	< 13	< 8.5	< 14	< 23	**34**	< 14	**230**	**37**	**20**	< 14	**30**	< 14	< 33	< 16	< 16	**24**	< 12	ND	--	--	--	< 0.17
	SV33-10	10.0	12/1/2015	< 46	< 37	< 27	< 27	**47**	< 28	**430**	< 40	**970**	< 200	< 22	**65**	**70**	**350**	**80**	< 67	< 34	< 34	< 43	< 25	ND	--	--	--	< 0.17
SV36	SV36-5	5.0	12/1/2015	< 7.9	< 6.3	< 4.6	< 4.6	**3.0**	< 4.8	**21**	**16**	**8.3**	**77**	**5.7**	**9.0**	< 5.1	< 10	**5.0**	< 11	< 5.7	< 5.7	< 7.2	< 4.3	ND	**3.6**	< 1.2	**17**	< 0.23
	SV36-10	10.0	12/1/2015	< 58	< 46	< 34	< 34	< 22	< 35	**2,500**	< 51	**370**	< 260	**150**	**41**	**210**	< 75	**250**	< 85	< 42	< 42	**53**	< 31	**170 (BC)**	**2.0**	**11**	**10**	< 0.17
SV38	SV38-5	5.0	11/30/2015	< 17	< 13	< 9.7	< 9.7	**25**	< 10	< 17	**85**	< 10	**460**	**18**	**24**	< 11	< 21	< 11	< 24	< 12	< 12	**110**	**48**	ND	**0.99**	**13**	**2.4**	< 0.18
	SV38-10	10.0	11/30/2015	< 40	< 32	**160**	**54**	**1,800**	< 24	< 41	**78**	< 24	**310**	**150**	**30**	< 26	< 52	< 26	< 59	< 29	< 29	**320**	< 22	ND	< 0.89	**67**	**1.6**	< 0.18
SV39	SV39-5	5.0	12/1/2015	< 7.5	< 6	< 4.4	< 4.4	< 2.8	< 4.6	< 7.6	**61**	< 4.6	**290**	**17**	**17**	**39**	**23**	**4.8**	< 11	< 5.5	< 5.5	**110**	**4.1**	ND	< 0.96	< 0.96	**24**	**0.19**
	SV39-10	10.0	12/1/2015	< 8.1	**9.0**	**38**	**63**	**7.5**	< 4.9	< 8.2	**49**	< 4.9	**200**	**130**	**71**	**99**	**220**	**65**	**62**	**43**	**23**	**140**	< 4.4	ND	< 0.94	**3.4**	**22**	< 0.19
SV40	SV40-5	5.0	12/1/2015	< 17	**13**	**42**	**10**	**24**	< 10	**27**	**29**	**38**	**180**	**25**	**14**	< 11	< 22	< 11	< 25	< 12	< 12	**43**	< 9.2	ND	--	--	--	< 0.19

Table 2
Summary of Soil Vapor Analytical Results
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street, Emeryville, California

Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	PCE ($\mu g/m^3$)	TCE ($\mu g/m^3$)	cis-1,2-DCE ($\mu g/m^3$)	trans-1,2-DCE ($\mu g/m^3$)	Vinyl chloride ($\mu g/m^3$)	1,1,1-TCA ($\mu g/m^3$)	1,1,2,2-PCA ($\mu g/m^3$)	MEK ($\mu g/m^3$)	MIBK ($\mu g/m^3$)	Acetone ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	m,p-Xylene ($\mu g/m^3$)	o-Xylene ($\mu g/m^3$)	1,2,4-TMB ($\mu g/m^3$)	1,3,5-TMB ($\mu g/m^3$)	4-Ethyltoluene ($\mu g/m^3$)	Carbon disulfide ($\mu g/m^3$)	Chloroform ($\mu g/m^3$)	Other VOCs ($\mu g/m^3$)	Carbon Dioxide (% v/v)	Methane (% v/v)	Oxygen (% v/v)	Helium (% v/v)
SV40	SV40-10	10.0	12/1/2015	< 62	< 49	< 36	< 36	**110**	< 38	**640**	< 54	**73**	< 270	**50**	< 35	< 40	**160**	**130**	< 90	< 45	< 45	< 57	< 34	ND	--	--	--	< 0.18
SV43	SV43-5	5.0	12/1/2015	< 8.5	< 6.7	< 5	< 5	< 3.2	< 5.1	< 8.6	**17**	**21**	**76**	**25**	**9.1**	< 5.4	< 11	< 5.4	< 12	< 6.2	< 6.2	**15**	**12**	ND	--	--	--	< 0.19
	SV43-10	10.0	12/1/2015	< 3	< 2.4	**1.8**	< 1.8	< 1.1	< 1.8	**7.5**	**15**	< 1.8	**42**	**5.1**	**4.9**	< 1.9	**5.3**	**1.9**	< 4.4	< 2.2	< 2.2	**6.5**	< 1.6	**3.3 (BC)**	--	--	--	< 0.18
SV44	SV44-5	5.0	12/1/2015	< 4.5	< 3.6	< 2.6	< 2.6	< 1.7	< 2.7	< 4.6	**49**	< 2.7	**220**	**50**	**17**	**30**	**22**	**13**	**16**	**3.7**	**6.9**	**60**	< 2.4	**17 (NAPH)**	< 0.83	< 0.83	**24**	< 0.17
	SV44-10	10.0	12/1/2015	< 5.9	< 4.7	**21**	< 3.5	**3.1**	< 3.6	< 6	**28**	< 3.6	**130**	**5.6**	**4.7**	< 3.8	< 7.6	< 3.8	< 8.6	< 4.3	< 4.3	**26**	< 3.2	ND	**9.3**	**0.92**	**2.3**	< 0.16
SV45	SV45-5	5.0	12/1/2015	< 12	< 9.2	**6.6**	< 6.8	< 4.4	< 7.0	< 12	**110**	< 7	**540**	**51**	**14**	**10**	**50**	**15**	< 17	< 8.4	< 8.4	**45**	**22**	ND	**5.8**	< 0.9	**14**	**0.34**
	SV45-10	10.0	12/1/2015	< 4.9	< 3.9	**9.5**	< 2.9	< 1.8	< 2.9	< 4.9	**76**	< 2.9	**170**	**16**	**8.3**	**6.0**	**33**	**12**	**9.7**	**4.4**	< 3.5	**7.7**	**4.9**	**3.4 (BC)**	**11**	< 0.9	**4.0**	**0.36**
SV47	SV47-5	5.0	12/3/2015	< 7.2	< 5.7	**8.8**	< 4.2	< 2.7	**5.7**	< 7.2	**38**	< 4.3	**250**	**13**	**24**	< 4.6	**11**	< 4.6	< 10	< 5.2	< 5.2	**22**	< 3.9	ND	--	--	--	< 0.21
SV48	SV48-5	5.0	2/1/2016	< 7.2	< 5.7	< 4.2	< 4.2	< 2.7	< 4.4	< 7.3	**21**	< 4.4	**200**	**34**	**210**	**36**	**150**	**52**	**27**	**12**	**12**	< 6.7	< 3.9	ND	**6.2**	< 0.96	**5.6**	**0.43**
	SV48-10	10.0	2/1/2016	< 5.1	< 4.1	**8.2**	< 3	**3.2**	< 3.1	< 5.2	**44**	< 3.1	**150**	**14**	**64**	**9.2**	**39**	**12**	**11**	**3.9**	**5.3**	**80**	< 2.8	**5.8 (CB)**	**8.2**	**2.6**	**2.0**	< 0.19
SV49	SV49-5	5.0	2/1/2016	< 5.0	**6.5**	**14**	< 2.9	< 1.9	< 3	< 5.1	**37**	< 3	**90**	**59**	**28**	**14**	**57**	**24**	**9.9**	**5.0**	**4.5**	**6.6**	< 2.7	ND	**6.8**	**1.3**	**2.1**	< 0.19
SV50	SV50-5	5.0	2/2/2016	< 27	< 21	< 16	< 16	**200**	< 16	< 27	**40**	**220**	**270**	**210**	**1,600**	**160**	**580**	**160**	< 39	< 19	**20**	**33**	< 14	ND	--	--	--	< 0.24
SV51	SV51-5	5.0	2/2/2016	< 150	< 120	< 87	< 87	**6,500**	< 90	< 150	< 130	< 90	< 650	**160**	**260**	< 96	< 190	< 96	< 220	< 110	< 110	< 140	< 81	ND	--	--	--	< 0.2
SV52	SV52-5	5.0	2/2/2016	< 15	< 12	**72**	< 8.6	**220**	< 8.9	< 15	**38**	< 8.9	**150**	**130**	**53**	< 9.5	**33**	**10**	< 21	< 11	< 11	< 14	< 8	ND	--	--	--	< 0.18
SV53	SV53-5	5.0	2/2/2016	**3.2**	**13**	**24**	**3.2**	**110**	**1.8**	< 2.7	**32**	< 1.6	**140**	**79**	**200**	**20**	**75**	**25**	**11**	**5.5**	**5.8**	**55**	**2.1**	**3.3 (1,1-DCE), 2.6 (CM), 3.9 (Freon 12), 4.1 (MC), 3.5 (Freon 11), 6.6 (VA)**	--	--	--	< 0.24
SV54	SV54-5	5.0	2/1/2016	< 150	< 120	< 89	< 89	**5,100**	< 92	< 150	< 130	< 92	< 670	**200**	< 85	< 98	< 200	< 98	< 220	< 110	< 110	< 140	< 82	ND	**8.5**	**45**	**2.0**	< 0.19
SV55	SV55-5	5.0	2/2/2016	< 15	< 12	< 8.9	< 8.9	**1,200**	< 9.2	< 15	**56**	< 9.2	**480**	**79**	**29**	< 9.7	< 19	< 9.7	< 22	< 11	< 11	**20**	< 8.2	ND	--	--	--	**0.19**
SV56	SV56-5	5.0	2/2/2016	< 530	< 420	**770**	< 310	**29,000**	< 320	< 540	< 460	< 320	< 2,300	**270**	< 290	< 340	< 680	< 340	< 770	< 380	< 380	< 490	< 290	ND	--	--	--	< 0.17
SV57	SV57-5	5.0	2/2/2016	< 180	< 140	**210**	< 100	**9,400**	< 110	< 180	< 160	< 110	< 780	**190**	**180**	< 110	< 230	< 110	< 260	< 130	< 130	< 160	< 96	ND	--	--	--	< 0.21
SV58	SV58-5	5.0	2/3/2016	< 4.9	< 3.8	< 2.8	< 2.8	< 1.8	< 2.9	< 4.9	**24**	< 2.9	**99**	**38**	**140**	**15**	**58**	**18**	**12**	**5.0**	**5.9**	**18**	< 2.6	**3.7 (Freon 12)**	< 0.9	< 0.9	**24**	< 0.18
	SV58-10	10.0	2/3/2016	< 8.8	**11**	**18**	< 5.1	**6.4**	< 5.3	< 8.9	**63**	< 5.3	**220**	**160**	**89**	**22**	**64**	**22**	**15**	**7.5**	**9.9**	**150**	< 4.7	ND	< 1.2	**35**	**14**	**0.38**
SV59	SV59-5	5.0	2/3/2016	< 2,600	< 2,000	**3,300**	**1,700**	**120,000**	< 1,500	< 2,600	< 2,200	< 1,500	< 11,000	< 1,200	< 1,400	< 1,600	< 3,300	< 1,600	< 3,700	< 1,900	< 1,900	< 2,300	< 1,400	ND	**2.6**	**9.4**	**13**	< 0.19
	SV59-10	10.0	2/3/2016	< 810	**680**	**5,600**	**2,100**	**15,000**	< 490	< 820	< 700	< 490	< 3500	< 380	< 450	< 520	< 1,000	< 520	< 1,200	< 590	< 590	< 740	< 440	ND	< 0.96	**39**	**2.6**	< 0.19
SV60	SV60-5	5.0	2/3/2016	< 110	< 89	**720**	**220**	**3,100**	< 68	< 110	< 98	**72**	< 490	**110**	**500**	< 72	**170**	**86**	< 160	< 82	< 82	< 100	< 61	ND	< 0.97	< 0.97	**24**	< 0.19
	SV60-10	10.0	2/3/2016	< 29,000	< 23,000	**98,000**	**41,000**	**920,000**	< 18,000	< 30,000	< 26,000	< 18,000	< 130,000	< 14,000	< 16,000	< 19,000	< 38,000	< 19,000	< 43,000	< 21,000	< 21,000	< 27,000	< 16,000	ND	< 0.87	**94**	**0.59**	< 0.17
SV61	SV61-5	5.0	2/4/2016	< 23	< 18	< 13	< 13	< 8.5	< 14	< 23	**25**	< 14	**260**	**37**	**820**	**300**	**1,500**	**530**	**500**	**240**	**200**	< 21	< 12	ND	< 0.84	< 0.84	**24**	**0.21**
	SV61-10	10.0	2/4/2016	< 420	< 330	< 240	< 240	**7,500**	< 250	< 420	< 360	< 250	< 1,800	**340**	**280**	< 270	**1,400**	**410**	**580**	**340**	**380**	< 380	< 230	ND	< 0.86	**25**	**7.3**	< 0.17
Residential Land Use ESL (Soil Gas) [1]				*240*	*240*	*4,200*	*31,000*	*4.7*	*520,000*	*24*	*2,600,000*	*1,600,000*	*16,000,000*	*48*	*160,000*	*560*	*52,000*	*52,000*	*NE*	*NE*	*NE*	*NE*	*61*	*NE*	*NE*	*NE*	*NE*	*NE*
Commercial/Industrial ESL [2]				*2,100*	*3,000*	*35,000*	*260,000*	*160*	*4,400,000*	*210*	*22,000,000*	*13,000,000*	*140,000,000*	*420*	*1,300,000*	*4,900*	*440,000*	*440,000*	*NE*	*NE*	*NE*	*NE*	*530*	*NE*	*NE*	*NE*	*NE*	*NE*

Notes:
Detections are shown in bold. Results equal to or exceeding applicable regulatory screening levels are shaded.
Only detected analytes are summarized on table. Refer to Appendix C for laboratory report to access entire list of compounds analyzed.
PCE = Tetrachloroethene.
TCE = Trichloroethene.
DCE = Dichloroethene.
TCA = Trichloroethane.
PCA = Tetrachloroethane
MEK = Methyl Ethyl Ketone
MIBK = Methyl Isobutyl Ketone
TMB = Trimethylbenzene.
CB = Chlorobenzene.
CM = Chloromethane.
DCA = Dichloroethane.
DCB = Dichlorobenzene
BC = Benzyl chloride
Freon 11 = Trichlorofluoromethane
Freon 12 = Dichlorodifluoromethane
Freon 21 = Dichlorofluoromethane
TCD = Carbon Dioxide
MC = Methylene Chloride
NAPH = Naphthalene
VA = Vinyl Acetate
VOCs = Volatile organic compounds.
bgs = Below ground surface.
$\mu g/m^3$ = Micrograms per cubic meter.
% v/v = Percent by volume.
< 2.9 = Not detected at or above the indicated laboratory method reporting limit.
ND = Not detected at or above the respective laboratory method reporting limits.
NE = Not established.
-- = Not applicable/not analyzed.
1. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table SG-1 Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels. Residential.

2. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table SG-1 Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels. Commercial/Industrial.

Table 4
Summary of Soil Analytical Results - Petroleum Hydrocarbons, VOCs, SVOCs, and PCBs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street, Emeryville, California

Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	TPHd (mg/Kg)	TPHmo (mg/Kg)	TCE (µg/Kg)	cis-1,2-DCE (µg/Kg)	trans-1,2-DCE (µg/Kg)	Vinyl chloride (µg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethylbenzene (µg/Kg)	m,p-Xylenes (µg/Kg)	o-Xylenes (µg/Kg)	Naphthalene (µg/Kg)	MEK (µg/Kg)	Acetone (µg/Kg)	Other VOCs (µg/Kg)	Phenol (mg/Kg)	PCB-1260 (µg/Kg)
SB19	SB19-0.5	0.5	12/2/2015	**24**	**86**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB20	SB20-1.0	1.0	11/30/2015	**23**	**57**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
	SB20-2.5	2.5	11/30/2015	**36**	**110**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**1,700 H**
SB21	SB21-0.5	0.5	12/2/2015	**110**	**380**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**1,900 H**
SB22	SB22-0.5	0.5	12/2/2015	**1.6**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB23	SB23-0.5	0.5	12/2/2015	**26**	**130**	--	--	--	--	--	--	--	--	--	< 130	--	--	ND	< 0.13	**490 H**
SB24	SB24-0.5	0.5	12/2/2015	**56**	**180**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**3,700 H**
SB25	SB25-1	1.0	12/2/2015	**87**	**410**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**800 H**
SB26	SB26-1.5	1.5	12/2/2015	**27**	**160**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**120 H**
SB27	SB27-2.5	2.5	12/2/2015	**260**	**960**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**590 H**
SB28	SB28-0.5	0.5	12/2/2015	**64**	**190**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**610 H**
	SB28-4.5	4.5	12/2/2015	**200**	**890**	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	--	--	< 9	--	< 45	ND	--	**55,000 H**
SB29	SB29-2.5	2.5	12/2/2015	**39**	**110**	--	--	--	--	--	--	--	--	--	< 130	--	--	ND	< 0.13	**1,900 H**
SB30	SB30-1	1.0	12/2/2015	**5.0**	< 49	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB31	SB31-2	2.0	12/2/2015	**35**	**150**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**280 E H**
	SB31-6	6.0	12/2/2015	**110**	**510**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	< 50
SB32	SB32-1.5	1.5	12/3/2015	**26**	**100**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**290 H**
SB34	SB34-4.0	4.0	12/1/2015	**59**	**290**	--	--	--	--	--	--	--	--	--	< 330	--	--	ND	< 0.33	**190 H**
SB35	SB35-0.5	0.5	12/2/2015	**130**	**450**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**620 H**
SB36	SB36-1.5	1.5	11/30/2015	**16**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB37	SB37-0.5	0.5	12/1/2015	**2.9**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB38	SB38-1.5	1.5	11/30/2015	**11**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB39	SB39-0.5	0.5	12/2/2015	**79**	**210**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**250 H**
SB40	SB40-1	1.0	12/2/2015	**84**	**300**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**1,900 H**
SB41	SB41-1	1.0	12/2/2015	**150**	**490**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**2,900 H**
SB42	SB42-1	1.0	12/2/2015	**55**	**170**	--	--	--	--	--	--	--	--	--	< 330	--	--	ND	< 0.33	**2,800 H**
SB43	SB43-1.5	1.5	12/1/2015	**200**	**680**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**1,300 H**
SB45	SB45-1.5	1.5	12/1/2015	**460**	**1,900**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**2,800 H**
SB46	SB46-0.5	0.5	12/2/2015	**62**	**310**	--	--	--	--	--	--	--	--	--	< 330	--	--	ND	< 0.33	**1,200 H**
SB48	SB48-1.0	1.0	12/1/2015	**110**	**410**	--	--	--	--	--	--	--	--	--	< 660	--	--	ND	< 0.66	**8,300 H**
SB49	SB49-0.5	0.5	12/2/2015	**8.2**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SB50	SB50-0.5	0.5	2/1/2016	--	--	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	--	--	< 8.5	--	< 42	ND	--	--
	SB50-5	5.0	2/1/2016	--	--	< 3.7	6.2	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	--	--	< 7.3	--	< 37	ND	--	--
SB51	SB51-0.5	0.5	2/1/2016	--	--	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	--	--	< 7	--	< 35	ND	--	--
	SB51-4.5	4.5	2/1/2016	--	--	< 3.6	< 3.6	< 3.6	**35**	**9.8**	**59**	**97**	**270**	**110**	**110**	**8.6**	**38**	**990 >LR b (1,2,4-TMB), 370 >LR b (1,3,5-TMB), 90 (IPB), 95 (n-BB), 91 (p-IT), 150 >LR b (PB), 86 (sec-BB), 4.6 (tert-BB)**	--	--
	SB51-10	10.0	2/1/2016	--	--	< 3.5	< 3.5	< 3.5	< 7.1	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7.1	**22**	**6.4 (n-BB), 4.2 (p-IT), 5.6 (sec-BB)**	--	--
SB52	SB52-0.5	0.5	2/1/2016	--	--	< 4	< 4	< 4	< 4	< 4	< 4	< 4	--	--	< 8.1	--	< 40	ND	--	--
	SB52-4.5	4.5	2/1/2016	--	--	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	--	--	< 7.8	--	**55**	ND	--	--
SB53	SB53-0.5	0.5	2/1/2016	--	--	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	--	--	< 7.5	--	< 38	ND	--	--
	SB53-5	5.0	2/1/2016	--	--	< 3.1	< 3.1	< 3.1	< 3.1	< 3.1	< 3.1	< 3.1	--	--	< 6.3	--	< 31	ND	--	--
	SB53-10	10.0	2/1/2016	--	--	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	--	--	< 6.9	--	< 35	ND	--	--
SB54	SB54-0.5	0.5	2/2/2016	--	--	< 3.4	< 3.4	< 3.4	< 6.8	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 6.8	< 14	ND	--	--
	SB54-5	5.0	2/2/2016	--	--	< 3.3	< 3.3	< 3.3	< 6.5	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 6.5	< 13	ND	--	--
SB55	SB55-0.5	0.5	2/2/2016	--	--	< 3.7	< 3.7	< 3.7	< 7.4	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 7.4	< 15	ND	--	--
	SB55-5.5	5.0	2/2/2016	--	--	< 4.6	**300 >LR b**	**56**	**60**	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 9.1	**35 b**	ND	--	--
	SB55-10	10.0	2/2/2016	--	--	< 810	**24,000**	**8,300**	< 1,600	< 810	< 810	< 810	< 810	< 810	< 810	< 1,600	< 3,200	ND	--	--
SB56	SB56-10	10.0	2/4/2016	--	--	< 4.2	< 4.2	< 4.2	< 8.4	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	**16**	**69**	ND	--	--
	SB56-13	13.0	2/4/2016	--	--	< 390	< 390	< 390	< 780	< 390	< 390	< 390	< 390	< 390	< 390	< 780	< 1,600	**620 (p-IT)**	--	--
SB57	SB57-10	10.0	2/4/2016	--	--	< 3.8	< 3.8	< 3.8	< 7.6	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 7.6	**21 b**	ND	--	--
	SB57-12.5	12.5	2/4/2016	--	--	< 350	< 350	< 350	< 710	< 350	< 350	< 350	< 350	< 350	< 350	< 710	< 1,400	ND	--	--
SB58	SB58-0.5	0.5	2/3/2016	--	--	< 3.5	< 3.5	< 3.5	< 7	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7	< 14	ND	--	--
	SB58-5	5.0	2/3/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.1	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	**8.5**	**36 b**	ND	--	--
SB59	SB59-0.5	0.5	2/3/2016	--	--	< 3.0	< 3.0	< 3.0	< 6.1	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 6.1	< 12	ND	--	--
	SB59-5	5.0	2/3/2016	--	--	< 3.7	**130**	**19**	**38**	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 7.4	**19 b**	ND	--	--
	SB59-10	10.0	2/3/2016	--	--	**20,000**	**73,000**	**81,000**	**14,000**	< 2,900	< 2,900	< 2,900	< 2,900	< 2,900	< 2,900	< 5,900	< 12,000	ND	--	--
	SB59-13.5	13.5	2/3/2016	--	--	< 3.4	**99**	**3.6**	**26**	< 3.4	< 3.4	< 3.4	**20**	**7.5**	< 3.4	< 6.9	< 14	**4.1 (1,2,4-TMB)**	--	--
SB60	SB60-0.5	0.5	2/3/2016	--	--	< 3.5	< 3.5	< 3.5	< 7	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7	< 14	ND	--	--
	SB60-5	5.0	2/3/2016	--	--	< 3.2	< 3.2	< 3.2	< 6.3	< 3.2	< 3.2	< 3.2	< 3.2	< 3.2	< 3.2	< 6.3	< 13	ND	--	--
SB61	SB61-0.5	0.5	2/3/2016	--	--	< 3.5	< 3.5	< 3.5	< 7	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7	< 14	ND	--	--
	SB61-5	5.0	2/3/2016	--	--	< 3.9	< 3.9	< 3.9	< 7.7	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 7.7	**18 b**	ND	--	--
	SB61-10	10.0	2/3/2016	--	--	< 1,200	< 1,200	< 1,200	< 2,500	< 1,200	< 1,200	< 1,200	< 1,200	< 1,200	**9,200**	< 2,500	< 4,900	**1,300 (PB)**	--	--
	SB61-12.5	12.5	2/3/2016	--	--	< 440	< 440	< 440	< 890	< 440	< 440	< 440	< 440	< 440	**1,800**	< 890	< 1,800	ND	--	--
SV6	SV6-0.5	0.5	12/1/2015	**2.2**	< 50	--	--	--	--	--	--	--	--	--	< 67	--	--	ND	< 0.067	--
SV8	SV8-0.5	0.5	12/3/2015	**7.2**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SV10	SV10-0.5	0.5	12/1/2015	**7.4**	< 50	--	--	--	--	--	--	--	--	--	< 66	--	--	ND	< 0.066	--
SV14	SV14-0.5	0.5	12/1/2015	**4.8**	< 50	--	--	--	--	--	--	--	--	--	< 67	--	--	ND	< 0.067	--
SV16	SV16-0.5	0.5	12/1/2015	**130**	**380**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	< 49
SV20	SV20-0.5	0.5	11/30/2015	**34**	**98**	--	--	--	--	--	--	--	--	--	< 330	--	--	ND	< 0.33	--
SV22	SV22-0.5	0.5	11/30/2015	**6.6**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SV32	SV32-1.0	1.0	11/30/2015	**38**	**160**	--	--	--	--	--	--	--	--	--	< 330	--	--	ND	< 0.33	**1,800 H**
	SV32-7.0	7.0	11/30/2015	**780**	**5,300**	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	--	--	< 8.1	--	< 41	ND	< 3.3	**890 H**

Table 4
Summary of Soil Analytical Results - Petroleum Hydrocarbons, VOCs, SVOCs, and PCBs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street, Emeryville, California

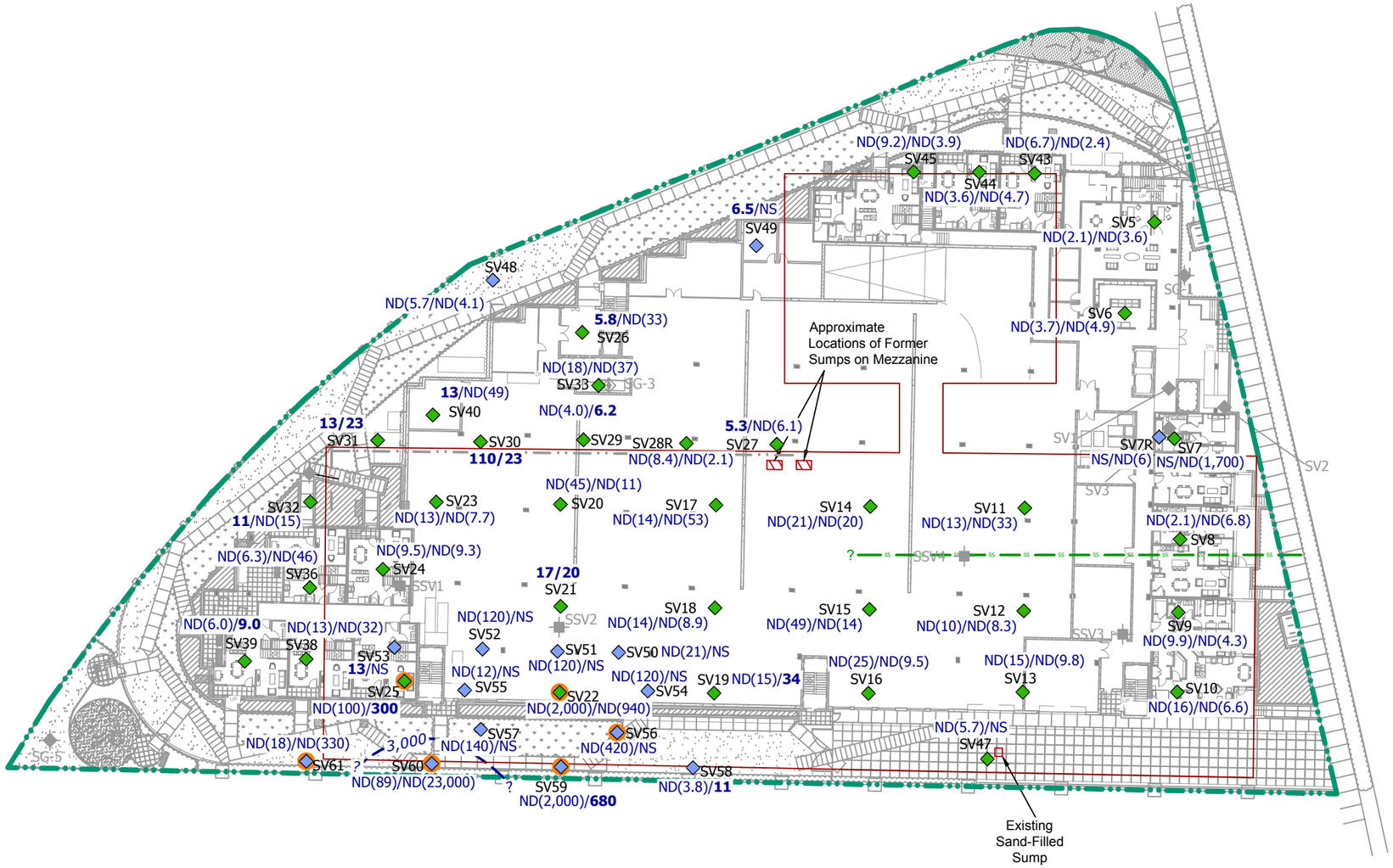
Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	TPHd (mg/Kg)	TPHmo (mg/Kg)	TCE (µg/Kg)	cis-1,2-DCE (µg/Kg)	trans-1,2-DCE (µg/Kg)	Vinyl chloride (µg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethylbenzene (µg/Kg)	m,p-Xylenes (µg/Kg)	o-Xylenes (µg/Kg)	Naphthalene (µg/Kg)	MEK (µg/Kg)	Acetone (µg/Kg)	Other VOCs (µg/Kg)	Phenol (mg/Kg)	PCB-1260 (µg/Kg)
SV33	SV33-0.5	0.5	11/30/2015	**130**	**410**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**4,000 H**
	SV33-4.5	4.5	11/30/2015	**230**	**1,000**	< 4	< 4	< 4	< 4	< 4	< 4	< 4	--	--	< 8	--	**47**	ND	--	**860 H**
SV38	SV38-1.0	1.0	11/30/2015	**29**	**83**	--	--	--	--	--	--	--	--	--	< 130	--	--	ND	**0.70**	--
SV43	SV43-1.0	1.0	11/30/2015	**3.7**	< 50	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
SV45	SV45-1.0	1.0	11/30/2015	**130**	**600**	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	**6,900 H**
SV47	SV47-1.5	1.5	12/3/2015	**7.3**	< 49	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
	SV47-2.5	2.5	12/3/2015	**16**	< 50	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	--	--	< 7.5	--	< 37	ND	--	--
SV50	SV50-0.5	0.5	2/2/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.1	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 7.1	< 14	ND	--	--
	SV50-4.5	4.5	2/2/2016	--	--	< 3.5	< 3.5	< 3.5	< 7.1	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7.1	**27**	ND	--	--
SV51	SV51-0.5	0.5	2/2/2016	--	--	< 4.0	< 4.0	< 4.0	< 7.9	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 7.9	< 16	ND	--	--
	SV51-5	5.0	2/2/2016	--	--	< 3.8	< 3.8	< 3.8	< 7.6	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	**7.8**	**34**	ND	--	--
SV52	SV52-0.5	0.5	2/2/2016	--	--	< 3.8	< 3.8	< 3.8	< 7.7	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 7.7	< 15	ND	--	--
	SV52-5	5.0	2/2/2016	--	--	< 3.7	< 3.7	< 3.7	< 7.3	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7	**4**	< 7.3	**16**	ND	--	--
SV53	SV53-0.5	0.5	2/2/2016	--	--	< 3.3	< 3.3	< 3.3	< 6.6	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 6.6	< 13	ND	--	--
	SV53-5	5.0	2/2/2016	--	--	< 3.2	< 3.2	< 3.2	< 6.4	< 3.2	< 3.2	< 3.2	< 3.2	< 3.2	< 3.2	< 6.4	**18**	ND	--	--
SV54	SV54-0.5	0.5	2/4/2016	--	--	< 3.3	< 3.3	< 3.3	< 6.7	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 6.7	< 13	ND	--	--
	SV54-5	5.0	2/4/2016	--	--	< 4.3	< 4.3	< 4.3	< 8.6	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 8.6	**40**	ND	--	--
SV55	SV55-0.5	0.5	2/2/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.1	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 7.1	< 14	ND	--	--
	SV55-5	5.0	2/2/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.1	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 7.1	< 14	ND	--	--
SV56	SV56-0.5	0.5	2/2/2016	--	--	< 3.5	< 3.5	< 3.5	< 7.1	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7.1	< 14	ND	--	--
	SV56-5	5.0	2/2/2016	--	--	< 4.2	< 4.2	< 4.2	< 8.3	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 8.3	**23 b**	ND	--	--
SV57	SV57-0.5	0.5	2/2/2016	--	--	< 3.9	< 3.9	< 3.9	< 7.8	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 7.8	< 16	ND	--	--
	SV57-5	5.0	2/2/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.2	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 7.2	< 14	ND	--	--
SV58	SV58-0.5	0.5	2/3/2016	--	--	< 4.2	< 4.2	< 4.2	< 8.3	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 8.3	< 17	ND	--	--
	SV58-5	5.0	2/3/2016	--	--	< 3.6	< 3.6	< 3.6	< 7.3	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 7.3	**20 b**	ND	--	--
	SV58-10	10.0	2/3/2016	--	--	< 4	< 4	< 4	< 8	< 4	< 4	< 4	< 4	< 4	< 4	< 8	< 16	ND	--	--
SV60	SV60-0.5	0.5	2/3/2016	--	--	< 3.5	< 3.5	< 3.5	< 7.1	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7.1	< 14	ND	--	--
	SV60-5	5.0	2/3/2016	--	--	< 3.5	< 3.5	< 3.5	< 7.1	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 7.1	< 14	ND	--	--
	SV60-10	10.0	2/3/2016	--	--	**600**	**13,000**	**5,800**	**3,300**	< 400	< 400	< 400	**530**	**710**	**890**	< 800	< 1,600	**2,700 (1,2,4-TMB), 2,600 (1,3,5-TMB), 430 (IPB), 590 (p-IT), 650 (PB), 610 (sec-BB)**	--	--
SV61	SV61-0.5	0.5	2/1/2016	--	--	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	--	--	< 7.1	--	< 35	ND	--	--
	SV61-5	5.0	2/1/2016	--	--	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	< 3.8	--	--	< 7.6	--	< 38	ND	--	--
	SV61-10	10.0	2/1/2016	--	--	< 3.5	< 3.5	< 3.5	**14**	**5.2**	**26**	**16**	**13**	**26**	**17**	**12**	**43**	**1,900 >LR b (1,2,4-TMB), 340 >LR b (1,3,5-TMB), 450 >LR b (IPB), 130 (n-BB), 220 >LR b (p-IT), 450 >LR b (PB), 210 >LR b (sec-BB), 39 (tert-BB)**	--	--
Tier 2 Residential Land Use ESL (Shallow Soil)				*230* [1]	*5,100* [3]	*510* [3]	*3,500* [3]	*39,000* [3]	*8.2* [3]	*49* [3]	*9,300* [3]	*1,400* [3]	*11,000* [3]	*11,000* [3]	*1,800* [1]	*13,000* [3]	*500* [3]	Varies	*8.8* [3]	*250* [6]
Construction Worker Exposure ESL [2]				*850*	*31,000*	*22,000*	*84,000*	*530,000*	*3,400*	*24,000*	*3,900,000*	*480,000*	*2,300,000*	*2,300,000*	*76,000*	*130,000,000*	*250,000,000*	Varies	*94,000*	*5,600* [6]

Notes:
Detections are shown in bold. Results equal to or exceeding applicable regulatory screening levels are shaded.
Only detected analytes are summarized on table. Refer to Appendix C for laboratory report to access entire list of compounds analyzed.
VOCs = Volatile organic compounds.
SVOCs = Semi-volatile organic compounds
TPHd = Total petroleum hydrocarbons quantified as diesel (C10-C28).
TPHmo = Total petroleum hydrocarbons quantified as motor oil (C24-C36).
TCE = Trichloroethene.
DCE = Dichloroethene.
IPB = Isopropylbenzene
p-IT = para-Isopropyl Toluene
PB = Propylbenzene
PCBs = Polychlorinated biphenyls
MEK = Methyl Ethyl Ketone
n-BB = n-Butylbenzene
sec-BB = sec-Butylbenzene
tert-BB = tert-Butylbenzene
TMB = Trimethylbenzene.
bgs = Below ground surface.
mg/kg = Milligrams per kilogram.
µg/kg = Micrograms per kilogram.
< 0.99 = Not detected at or above the indicated laboratory method reporting limit.
-- = Not applicable/not analyzed.
H = Sample was prepped or analyzed beyond the specified holding time.
E = Result exceeded calibration range.
ND = Not Detected.
>LR = Response exceeds instrument's linear range
b = High response was observed for acetone; see lab report for detailed explanation.
1. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table S-1: Direct Exposure Human Health Risk Levels, Residential: Shallow Soil Exposure
2. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table S-1: Soil Direct Exposure Human Health Risk Screening Levels, Any Land Use, Construction Worker Shallow and Deep Soil Exposure Scenario.
3. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table S-2: Soil Leaching to Groundwater Screening Levels, Final Soil Leaching Screening Levels, Non-Drinking Water Resources.
4. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table S-4: Soil Odor Nuisance Screening Levels, Residential Land Use, Shallow Soil Exposure Scenario.
5. February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table S-3: Soil Gross Contamination Level.
6. Screening level is for total PCBs.

Table 6
Summary of Groundwater Analytical Results
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street, Emeryville, California

Sample Location	Sample ID	Date Sampled	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Other VOCs (µg/L)	1,4-Dioxane (µg/L)
SB51	SB51-GW	2/1/2016	< 0.50	**1.6**	**3.2**	< 0.50	< 0.50	**--**	**--**	**5.0**	< 0.50	< 0.50	ND	< 10
SB56	SB56-GW	2/4/2016	< 25	< 25	**5.6 J**	< 25	< 25	< 25	< 25	< 100	< 25	< 25	ND	--
SB57	SB57-GW	2/4/2016	< 8.3	< 8.3	**3.0 J**	< 8.3	< 8.3	**5.3 J**	**3.2 J**	< 33	**3.5 J**	**1.8 J**	ND	--
SB59	SB59-GW	2/3/2016	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 25	< 25	ND	< 100
SB61	SB61-GW	2/3/2016	**9.2 J**	**7.3 J**	**4.0 J**	< 13	< 13	< 13	< 13	< 50	**3.3 J**	< 13	ND	< 100
SB62	SB62-GW	2/4/2016	**1.7 J**	**2.8 J**	**3.3 J**	**1.9 J**	**1.4 J**	**3.0 J**	**3.8 J**	**2.7 J**	**3.1 J**	**1.7 J**	ND	--
MCL (Final) [1]			*6.0*	*0.50*	*1.0*	*40*	*30*	*20*		*0.12*	*NE*	*NE*	--	*0.38*
Residential Land Use ESL (Vapor Intrusion) [2]			*15,000*	*2.0*	*30*	*100,000*	*370*	*38,000*		*180*	*NE*	*NE*	--	*NE*
Commercial Land Use ESL (Vapor Intrusion) [3]			*130,000*	*17*	*260*	*NE*	*3,300*	*NE*		*1,600*	*NE*	*NE*	--	*NE*

Notes:
Detections are shown in bold. Results equal to or exceeding applicable regulatory screening levels are shaded.
Only detected analytes are summarized on table. Refer to Appendix C for laboratory report to access entire list of compounds analyzed.
DCE = Dichloroethene.
TMB = Trimethylbenzene.
VOCs = Volatile organic compounds.
bgs = Below ground surface.
µg/L= Micrograms per Liter
< 2.9 = Not detected at or above the indicated laboratory method reporting limit.
ND = Not detected at or above the respective laboratory method reporting limits.
NE = Not established.
-- = Not applicable/not analyzed.
J = Indicates an estimated value.
1. MCL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table GW-1 Groundwater Direct Exposure Human Health Risk Screening Levels, Final MCL Priority Screening Level.
2. ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table GW-3 Groundwater Vapor Intrusion Human Health Risk Levels, Deep Groundwater Residential: Fine to Coarse Scenario
3. ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table GW-3 Groundwater Vapor Intrusion Human Health Risk Levels, Deep Groundwater Commercial/Industrial: Fine to Coarse Scenario



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- ? — Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway

13/23 Trichloroethylene (TCE) concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)

ND(13) Not detected at or above the indicated laboratory reporting limit

NS Not Sampled

Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (240 µg/m^3)

3,000 TCE isoconcentration contour for soil vapor exceeding commercial ESL (3,000 µg/m^3) at 10 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

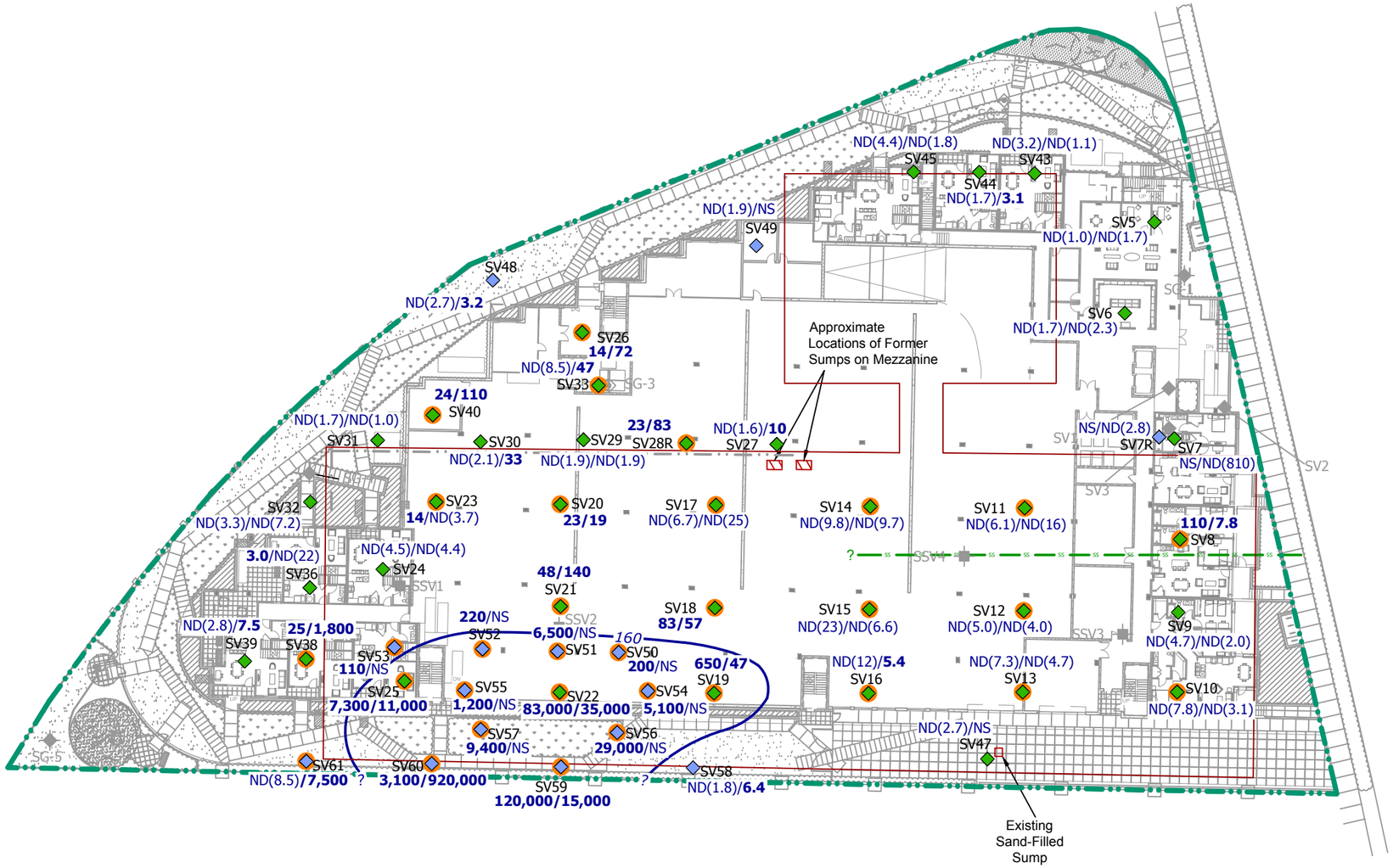
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Analytical Results - Trichloroethylene
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
9

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER / DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location (PES, Feb 2016)
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- **83/57** — Vinyl Chloride concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)
- ND(5.0) — Not detected at or above the indicated laboratory reporting limit
- NS — Not Sampled
- Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (4.7 µg/m^3)
- *160* — Vinyl Chloride isoconcentration contour for soil vapor exceeding commercial ESL (160 µg/m^3) at 5 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

N

0 50

SCALE IN FEET

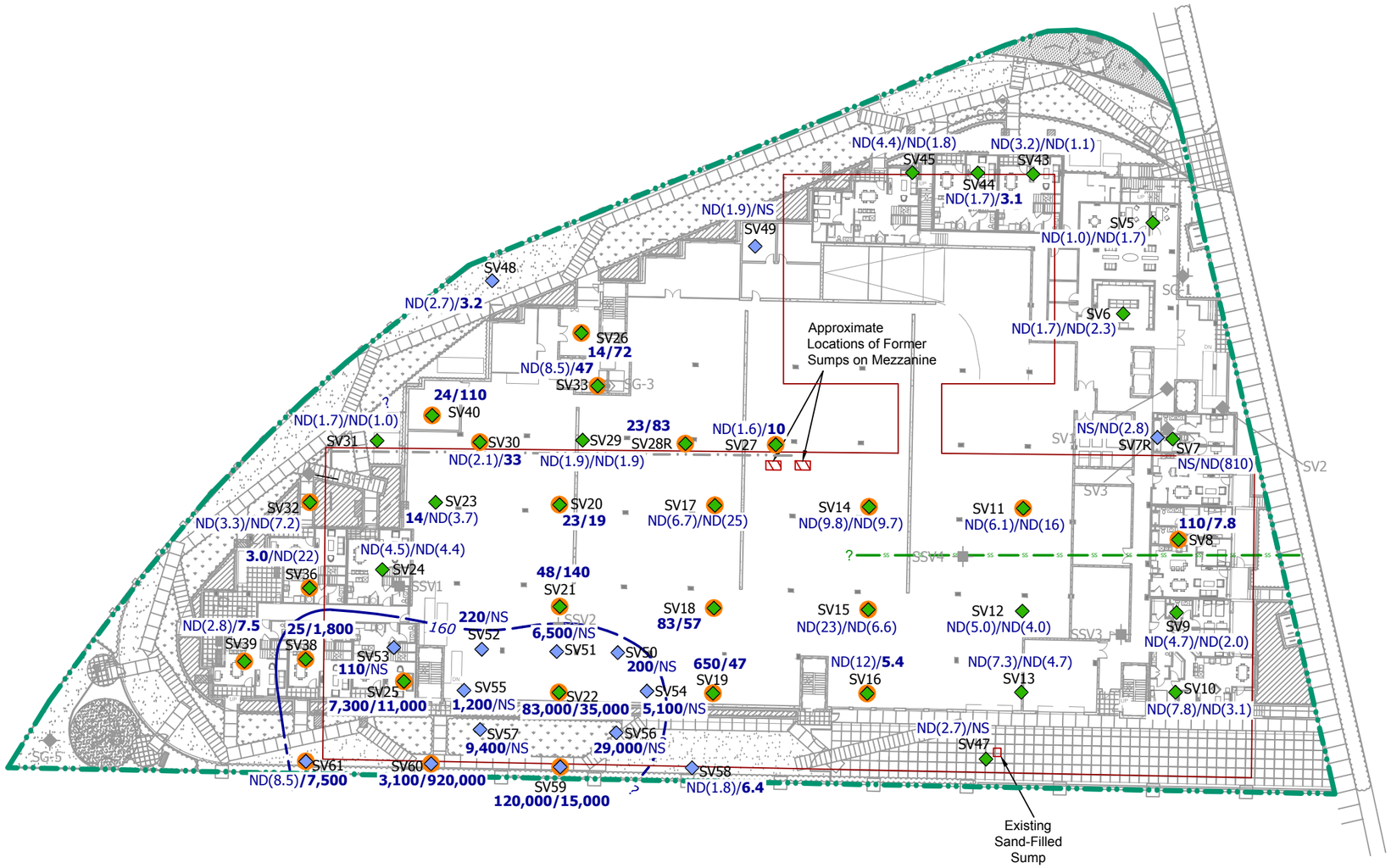
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Analytical Results and Isoconcentration Contours - Vinyl Chloride at 5 feet bgs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
10A

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location (PES, Feb 2016)
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway

83/57 Vinyl Chloride concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)

ND(5.0) Not detected at or above the indicated laboratory reporting limit

NS Not Sampled

Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (4.7 µg/m^3)

160 Vinyl Chloride isoconcentration contour for soil vapor exceeding commercial ESL (160 µg/m^3) at 5 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

N

0 50

SCALE IN FEET

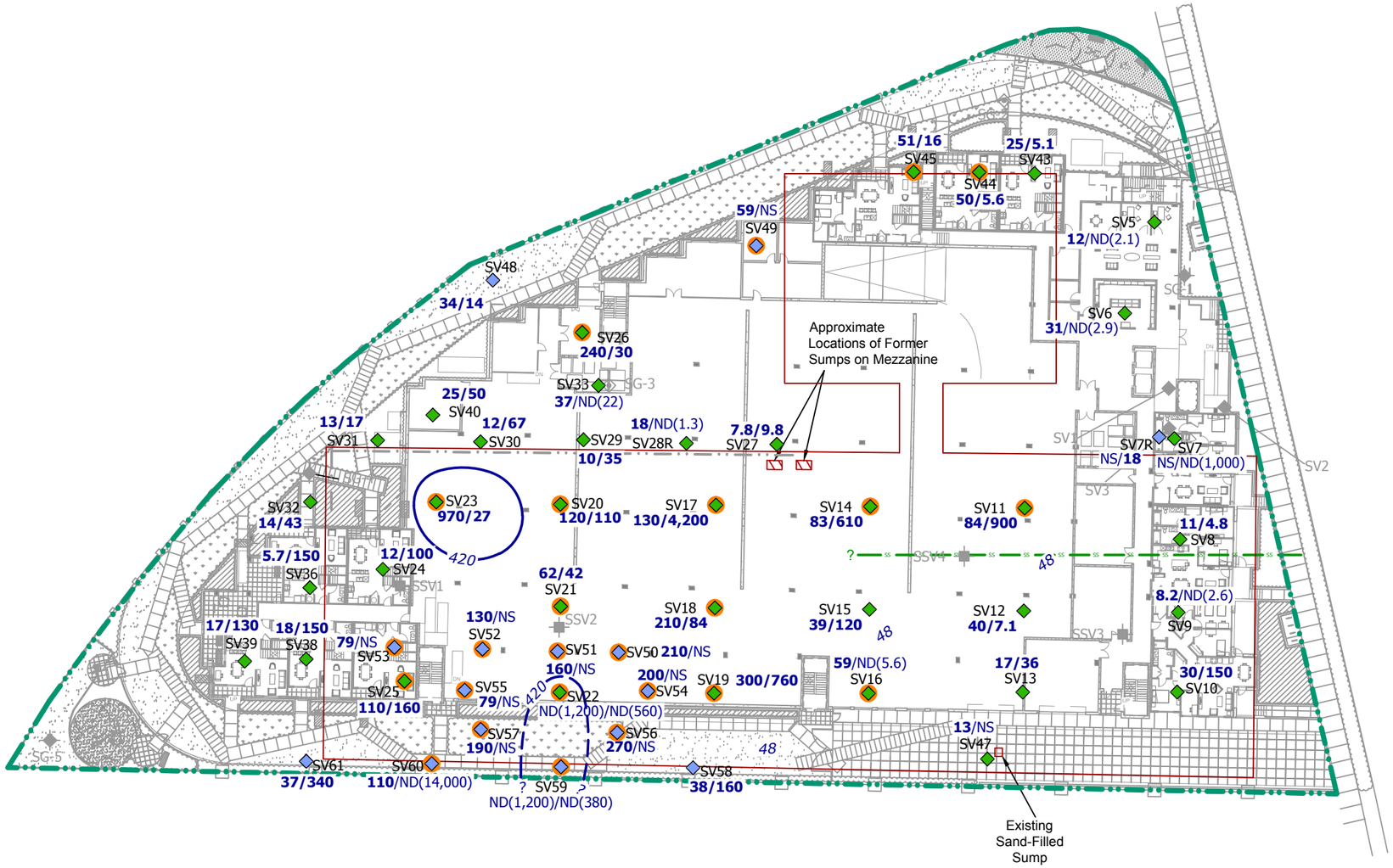
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Sample Results and Isoconcentration Contours - Vinyl Chloride at 10 ft bgs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
10B

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location (PES, Feb 2016)
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- **21/2,500** — Benzene concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)
- ND(2.7) — Not detected at or above the indicated laboratory reporting limit
- NS — Not Sampled
- Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (48 µg/m^3)
- *420* — Benzene isoconcentration contour for soil vapor exceeding commercial ESL (420 µg/m^3) at 10 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

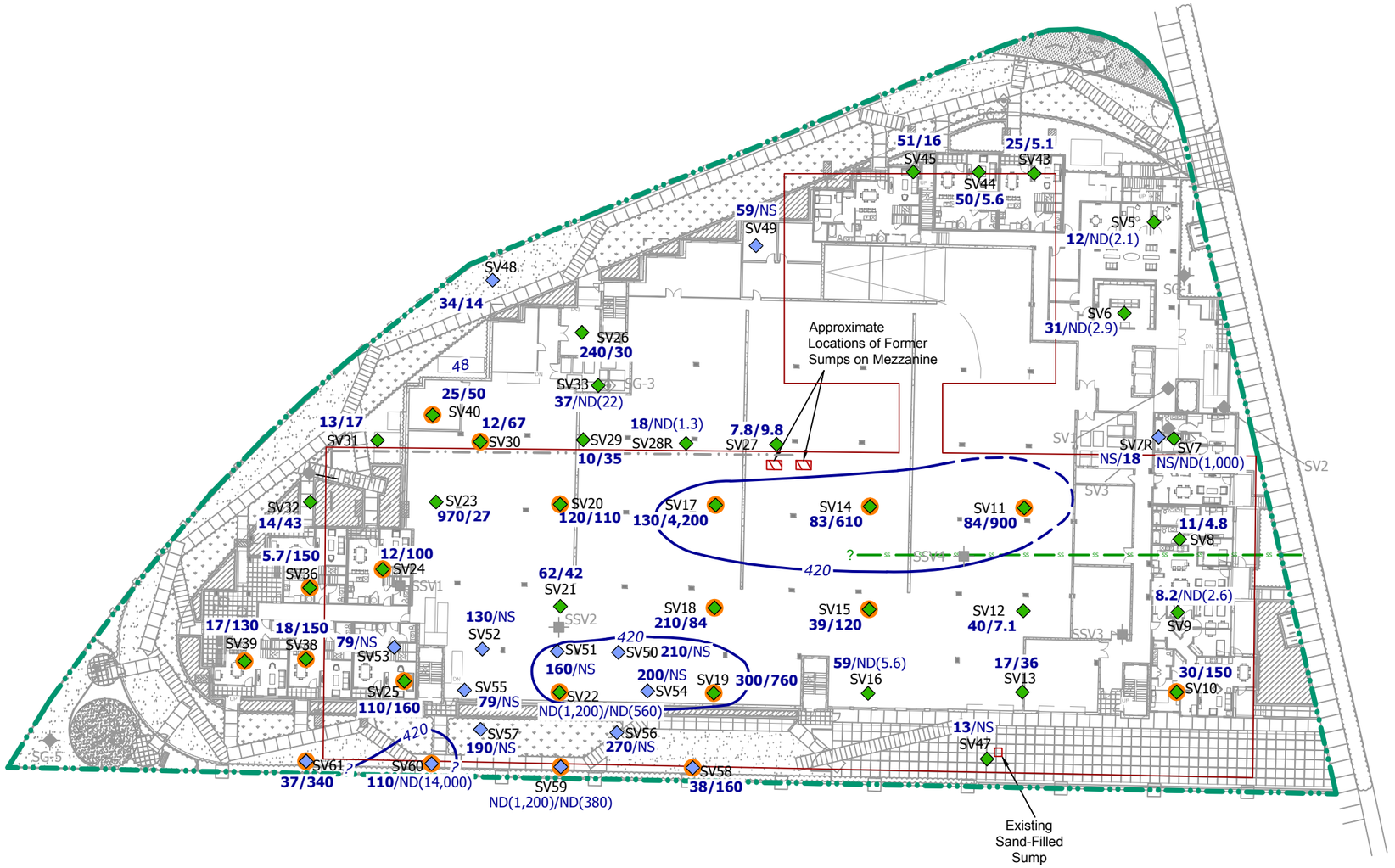
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Sample Results and Isoconcentration Contours - Benzene at 5 ft bgs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
11A

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location (PES, Feb 2015)
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- **21/2,500** — Benzene concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)
- ND(2.7) — Not detected at or above the indicated laboratory reporting limit
- NS — Not Sampled
- Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (48 µg/m^3)
- *420* — Benzene isoconcentration contour for soil vapor exceeding commercial ESL (420 µg/m^3) at 10 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

N

0 50

SCALE IN FEET

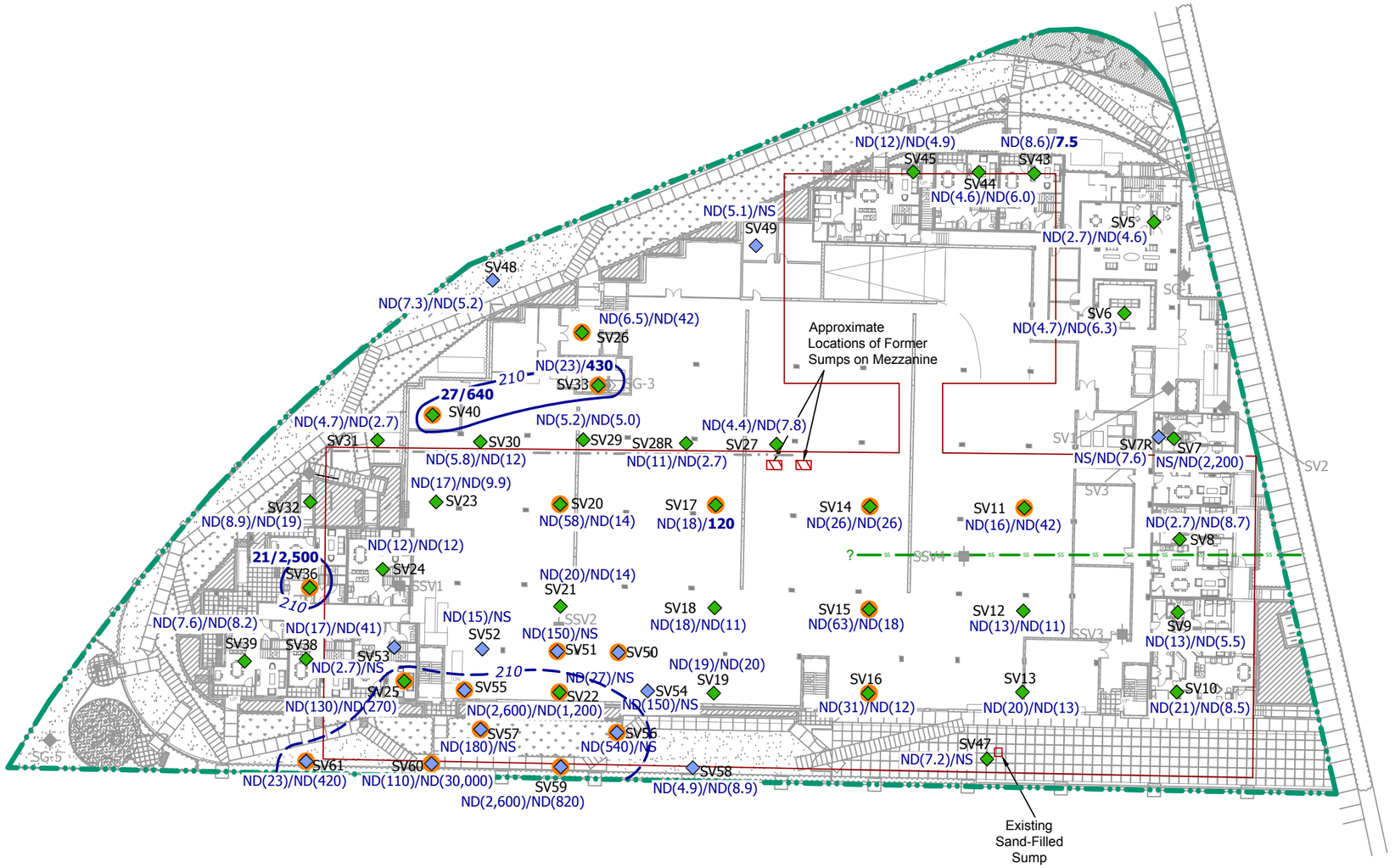
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Sample Results and Isoconcentration Contours - Benzene at 10 ft bgs
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
11B

1448.001.01.019	144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Soil Vapor Sampling Location (PES, Feb 2016)
- SV7 — Soil Vapor Sampling Location (PES, Nov-Dec 2015)
- SG-5 — Soil, Soil Gas and Groundwater Sampling Location (Environ, 2013)
- SG-3 — Soil Gas and Soil Sampling Location (Environ, 2013)
- SV1 — Soil Vapor Sampling Location (PES, April 2015)
- SSV1 — Sub-Slab Vapor Sampling Location (PES, April 2015)
- Assumed Former Drain Line Location
- ? — Approximate Location of Existing Sewer Line (queried where uncertain)
- Existing Building Outline
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- ft. bgs — Feet Below Ground Surface
- **21/2,500** — 1,1,2,2-Tetrachloroethane concentration at 5-feet and 10-feet below ground surface (ft bgs), respectively, shown in micrograms per cubic meter (µg/m^3)
- ND(2.7) — Not detected at or above the indicated laboratory reporting limit
- NS — Not Sampled
- Detection or reporting limit exceeds residential Environmental Screening Level (ESL) for Soil Gas (24 µg/m^3)
- *210* — 1,1,2,2-Tetrachloroethane isoconcentration contour exceeding commercial ESL (210 µg/m^3 for soil vapor at 10 ft bgs in µg/m^3 (dashed where inferred)

Notes:
1. Sample depths for SV-15 are 5-ft and 8-ft bgs.

N

0 50

SCALE IN FEET

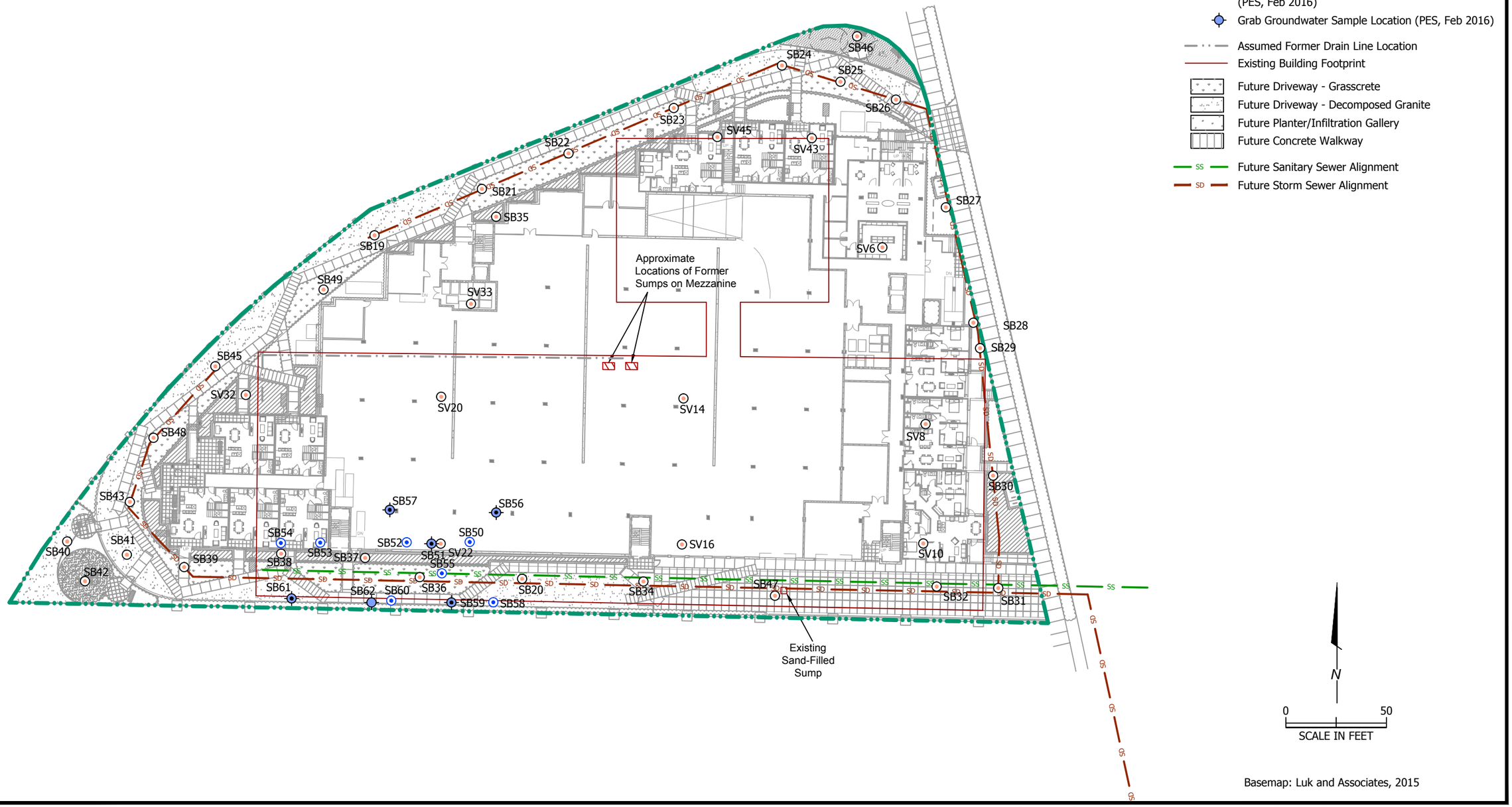
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Soil Vapor Sample Results - 1,1,2,2-Tetrachloroethane
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
12

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER DRAWING NUMBER	REVIEWED BY	DATE

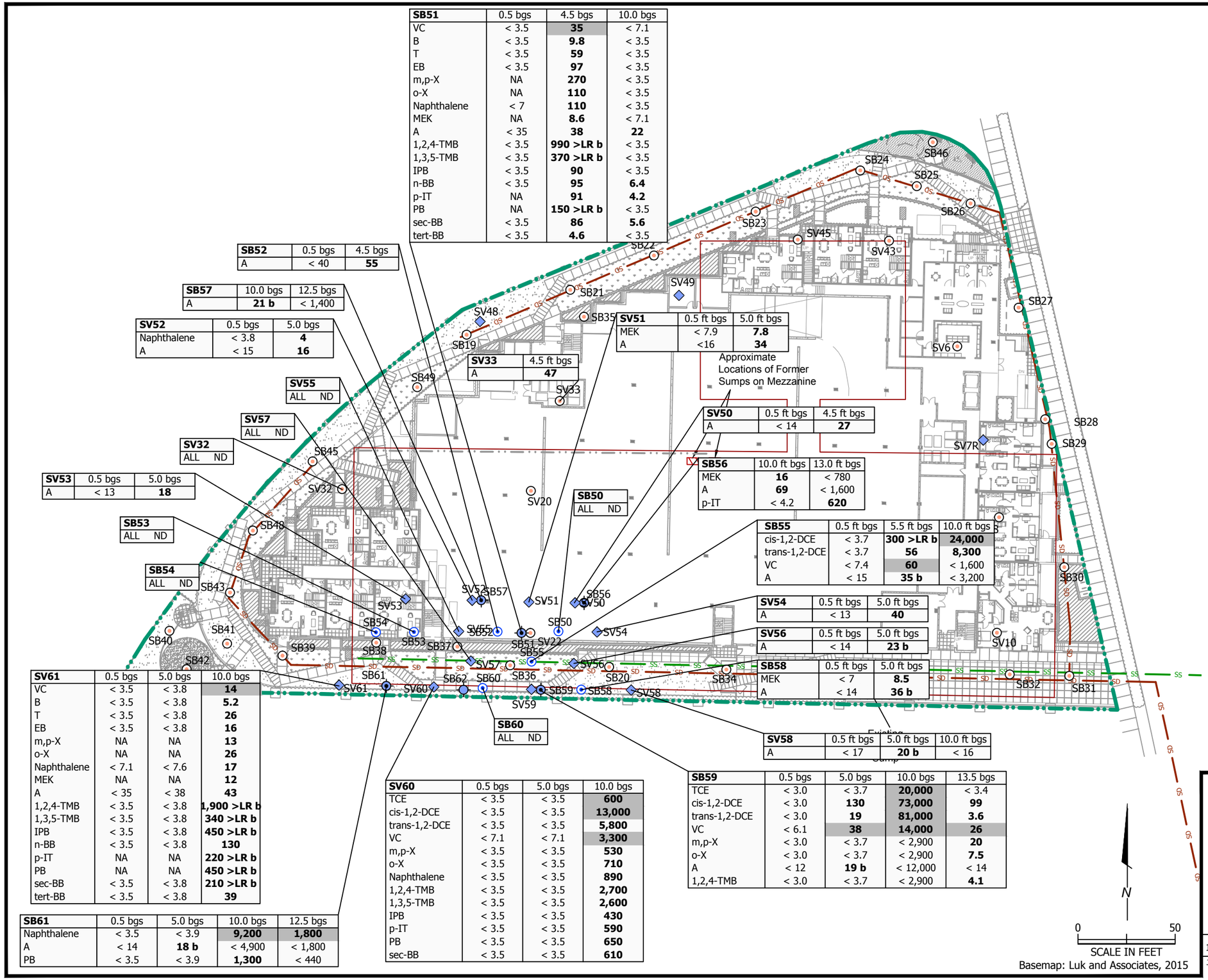


PES Environmental, Inc.
Engineering & Environmental Services

Soil and Grab Groundwater Sample Locations and Proposed Ground-Level Development Plan
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
13

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER DRAWING NUMBER	REVIEWED BY	DATE



SB51	0.5 bgs	4.5 bgs	10.0 bgs
VC	< 3.5	**35**	< 7.1
B	< 3.5	**9.8**	< 3.5
T	< 3.5	**59**	< 3.5
EB	< 3.5	**97**	< 3.5
m,p-X	NA	**270**	< 3.5
o-X	NA	**110**	< 3.5
Naphthalene	< 7	**110**	< 3.5
MEK	NA	**8.6**	< 7.1
A	< 35	**38**	**22**
1,2,4-TMB	< 3.5	**990 >LR b**	< 3.5
1,3,5-TMB	< 3.5	**370 >LR b**	< 3.5
IPB	< 3.5	**90**	< 3.5
n-BB	< 3.5	**95**	**6.4**
p-IT	NA	**91**	**4.2**
PB	NA	**150 >LR b**	< 3.5
sec-BB	< 3.5	**86**	**5.6**
tert-BB	< 3.5	**4.6**	< 3.5

SB52	0.5 bgs	4.5 bgs
A	< 40	**55**

SB57	10.0 bgs	12.5 bgs
A	**21 b**	< 1,400

SV52	0.5 bgs	5.0 bgs
Naphthalene	< 3.8	**4**
A	< 15	**16**

SV55
ALL ND

SV57
ALL ND

SV32
ALL ND

SV53	0.5 bgs	5.0 bgs
A	< 13	**18**

SB53
ALL ND

SB54
ALL ND

SV33	4.5 ft bgs
A	**47**

SV51	0.5 ft bgs	5.0 ft bgs
MEK	< 7.9	**7.8**
A	<16	**34**

Approximate Locations of Former Sumps on Mezzanine

SV50	0.5 ft bgs	4.5 ft bgs
A	< 14	**27**

SB56	10.0 ft bgs	13.0 ft bgs
MEK	**16**	< 780
A	**69**	< 1,600
p-IT	< 4.2	**620**

SB50
ALL ND

SB55	0.5 ft bgs	5.5 ft bgs	10.0 ft bgs
cis-1,2-DCE	< 3.7	**300 >LR b**	**24,000**
trans-1,2-DCE	< 3.7	**56**	**8,300**
VC	< 7.4	**60**	< 1,600
A	< 15	**35 b**	< 3,200

SV54	0.5 ft bgs	5.0 ft bgs
A	< 13	**40**

SV56	0.5 ft bgs	5.0 ft bgs
A	< 14	**23 b**

SB58	0.5 ft bgs	5.0 ft bgs
MEK	< 7	**8.5**
A	< 14	**36 b**

SV58	0.5 ft bgs	5.0 ft bgs	10.0 ft bgs
A	< 17	**20 b**	< 16

SV61	0.5 bgs	5.0 bgs	10.0 bgs
VC	< 3.5	< 3.8	**14**
B	< 3.5	< 3.8	**5.2**
T	< 3.5	< 3.8	**26**
EB	< 3.5	< 3.8	**16**
m,p-X	NA	NA	**13**
o-X	NA	NA	**26**
Naphthalene	< 7.1	< 7.6	**17**
MEK	NA	NA	**12**
A	< 35	< 38	**43**
1,2,4-TMB	< 3.5	< 3.8	**1,900 >LR b**
1,3,5-TMB	< 3.5	< 3.8	**340 >LR b**
IPB	< 3.5	< 3.8	**450 >LR b**
n-BB	< 3.5	< 3.8	**130**
p-IT	NA	NA	**220 >LR b**
PB	NA	NA	**450 >LR b**
sec-BB	< 3.5	< 3.8	**210 >LR b**
tert-BB	< 3.5	< 3.8	**39**

SB61	0.5 bgs	5.0 bgs	10.0 bgs	12.5 bgs
Naphthalene	< 3.5	< 3.9	**9,200**	**1,800**
A	< 14	**18 b**	< 4,900	< 1,800
PB	< 3.5	< 3.9	**1,300**	< 440

SV60	0.5 bgs	5.0 bgs	10.0 bgs
TCE	< 3.5	< 3.5	**600**
cis-1,2-DCE	< 3.5	< 3.5	**13,000**
trans-1,2-DCE	< 3.5	< 3.5	**5,800**
VC	< 7.1	< 7.1	**3,300**
m,p-X	< 3.5	< 3.5	**530**
o-X	< 3.5	< 3.5	**710**
Naphthalene	< 3.5	< 3.5	**890**
1,2,4-TMB	< 3.5	< 3.5	**2,700**
1,3,5-TMB	< 3.5	< 3.5	**2,600**
IPB	< 3.5	< 3.5	**430**
p-IT	< 3.5	< 3.5	**590**
PB	< 3.5	< 3.5	**650**
sec-BB	< 3.5	< 3.5	**610**

SB60
ALL ND

SB59	0.5 bgs	5.0 bgs	10.0 bgs	13.5 bgs
TCE	< 3.0	< 3.7	**20,000**	< 3.4
cis-1,2-DCE	< 3.0	**130**	**73,000**	**99**
trans-1,2-DCE	< 3.0	**19**	**81,000**	**3.6**
VC	< 6.1	**38**	**14,000**	**26**
m,p-X	< 3.0	< 3.7	< 2,900	**20**
o-X	< 3.0	< 3.7	< 2,900	**7.5**
A	< 12	**19 b**	< 12,000	< 14
1,2,4-TMB	< 3.0	< 3.7	< 2,900	**4.1**

Explanation

- Approximate Property Boundary
- Soil Sampling Location (PES, Nov.-Dec. 2015)
- Soil Sampling Location (PES, Feb 2016)
- Soil Vapor and Soil Sampling Location (PES, Feb. 2016)
- Soil and Grab Groundwater Sample Location (PES, Feb 2016)
- Grab Groundwater Sample Location (PES, Feb 2016)
- Assumed Former Drain Line Location
- Existing Building Footprint
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- SS Future Sanitary Sewer Alignment
- SD Future Storm Sewer Alignment

Notes:

Detections are shown in bold. Results equal to or exceeding one or more applicable regulatory screening levels are shaded.
All results presented in micrograms per kilogram (µg/kg)
VOCs = Volatile organic compounds.
TCE = Trichloroethene.
DCE = Dichloroethene.
VC = Vinyl Chloride
B = Benzene
T = Toluene
EB = Ethylbenzene
m,p-X = m,p-Xylenes
o-X = o-Xylenes
MEK = Methyl ethyl ketone or 2-Butanone
A = Acetone
TMB = Trimethylbenzene.
IPB = Isopropylbenzene
n-BB = n-Butylbenzene
p-IT = para-Isopropyl Toluene
PB = Propylbenzene
sec-BB = sec-Butylbenzene
tert-BB = tert-Butylbenzene
bgs = Below ground surface.
< 0.99 = Not detected at or above the indicated laboratory method reporting limit.
NA = Not applicable/not analyzed.
>LR = Response exceeds instrument's linear range
b = High response was observed for acetone; see lab report for detailed explanation.

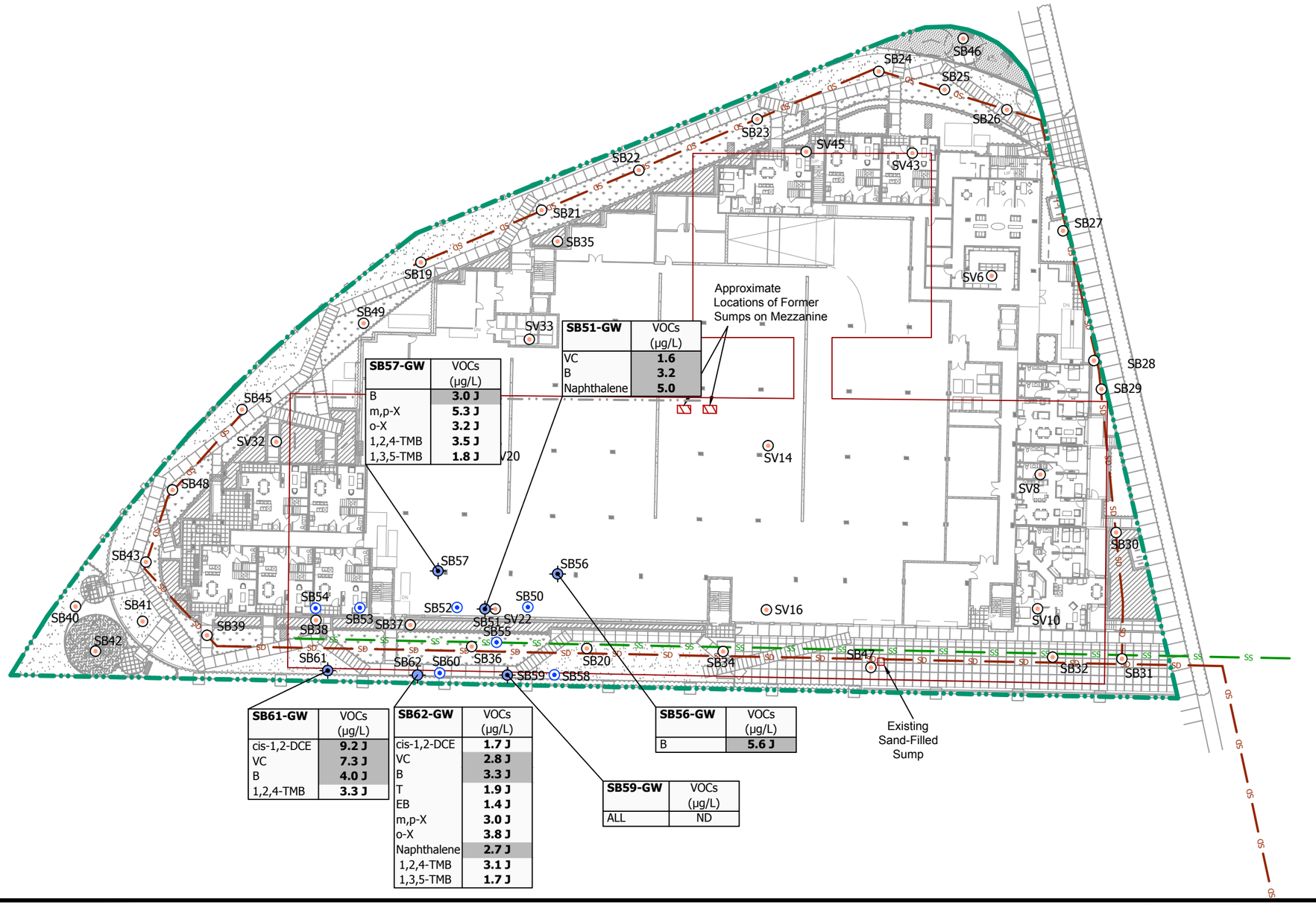
Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Summary of Soil Analytical Results- Volatile Organic Compounds
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE 14

1448.001.01.019	144800101019_PCSIR-r1_8-15	CJB	4/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



SB57-GW	VOCs (µg/L)
B	**3.0 J**
m,p-X	**5.3 J**
o-X	**3.2 J**
1,2,4-TMB	**3.5 J**
1,3,5-TMB	**1.8 J**

SB51-GW	VOCs (µg/L)
VC	**1.6**
B	**3.2**
Naphthalene	**5.0**

SB61-GW	VOCs (µg/L)
cis-1,2-DCE	**9.2 J**
VC	**7.3 J**
B	**4.0 J**
1,2,4-TMB	**3.3 J**

SB62-GW	VOCs (µg/L)
cis-1,2-DCE	**1.7 J**
VC	**2.8 J**
B	**3.3 J**
T	**1.9 J**
EB	**1.4 J**
m,p-X	**3.0 J**
o-X	**3.8 J**
Naphthalene	**2.7 J**
1,2,4-TMB	**3.1 J**
1,3,5-TMB	**1.7 J**

SB56-GW	VOCs (µg/L)
B	**5.6 J**

SB59-GW	VOCs (µg/L)
ALL	ND

Explanation

- Approximate Property Boundary
- Soil Sampling Location (PES, Nov.-Dec. 2015)
- Soil Sampling Location (PES, Feb 2016)
- Soil and Grab Groundwater Sample Location (PES, Feb 2016)
- Grab Groundwater Sample Location (PES, Feb 2016)
- Assumed Former Drain Line Location
- Existing Building Footprint
- Future Driveway - Grasscrete
- Future Driveway - Decomposed Granite
- Future Planter/Infiltration Gallery
- Future Concrete Walkway
- SS Future Sanitary Sewer Alignment
- SD Future Storm Sewer Alignment

Notes:
Detections are shown in bold. Results equal to or exceeding one or more applicable regulatory screening levels are shaded.
VOCs = Volatile organic compounds.
DCE = Dichloroethene.
VC = Vinyl Chloride
B = Benzene
T = Toluene
EB = Ethylbenzene
m,p-X = m,p-Xylenes
o-X = o-Xylenes
TMB = Trimethylbenzene.
J = Indicates an estimated value.
ND = Not Detected.
µg/L= Micrograms per Liter

N

0 50
SCALE IN FEET

Basemap: Luk and Associates, 2015

PES Environmental, Inc.
Engineering & Environmental Services

Summary of Grab Groundwater Analytical Results - Volatile Organic Compounds
Pre-Construction Subsurface Investigation Report
6701, 6705, and 6707 Shellmound Street
Emeryville, California

PLATE
15

1448.001.01.019144800101019_PCSIR-r1_8-15	CJB	4/16
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DISTRIBUTION

WORK PLAN FOR SOIL VAPOR EXTRACTION
6701, 6705, and 6707 SHELLMOUND STREET
EMERYVILLE, CALIFORNIA
FUEL LEAK CASE NO. RO0000548
GEOTRACKER GLOBAL ID T0600100894

APRIL 8, 2016

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