

January 21, 2016

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

By Alameda County Environmental Health 2:58 pm, Jan 25, 2016

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

**TRANSMITTAL LETTER  
WORK PLAN FOR SUPPLEMENTAL PRE-CONSTRUCTION SUBSURFACE  
INVESTIGATION  
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 Supplemental Pre-Construction Subsurface Investigation, 6701, 6705, and 6707 Shellmound Street, Emeryville, California* dated January 21, 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



January 21, 2016

**1448.001.01.025**

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

Attention: Mr. Mark Detterman, P.G., C.HG.

**WORK PLAN FOR SUPPLEMENTAL PRE-CONSTRUCTION SUBSURFACE  
INVESTIGATION  
6701, 6705, AND 6707 SHELLMOUND STREET  
EMERYVILLE, CALIFORNIA  
FUEL LEAK CASE NO. RO0000548  
GEOTRACKER GLOBAL ID T0600100894**

Dear Mr. Detterman:

On behalf of Anton Emeryville, LLC (Anton), PES Environmental, Inc. (PES) has prepared this Work Plan for Supplemental Pre-Construction Subsurface Investigation (the Supplemental Investigation Work Plan) at the property located at 6701, 6705, and 6707 Shellmound Street, Emeryville, California (collectively, the subject property or site; Plates 1 and 2). On November 30 through December 3, 2015, PES performed pre-construction subsurface investigation activities in accordance with the *Revised Work Plan for Pre-Construction Subsurface Investigation* dated August 28, 2015 (Revised Pre-Construction Work Plan), with the objective of characterizing soil gas and soil which may remain in-place beneath future landscaped areas, future residential and multi-use areas of the future development, or be disturbed by future intrusive earthwork activities conducted during proposed redevelopment activities at the site. During a meeting on January 6, 2016 between Alameda County Environmental Health Department (ACEH), Anton, and PES, ACEH requested additional characterization of soil gas, soil, and groundwater beneath select areas of the site based on the results of the investigation. A site plan showing the proposed development and proposed soil gas, soil, and grab groundwater sampling locations is presented as Plate 3.

**Mr. Mark Detterman**  
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The subject property is currently listed as an open Spills, Leaks, Investigation and Cleanup (SLIC) case with ACEH as the lead environmental regulatory agency. The case is listed under Mike Roberts Color Production (6707 Bay Street), and the database lists other solvents and non-petroleum hydrocarbons as the potential contaminants of concern. PES is assisting Anton in working with ACEH to obtain SLIC case closure as part of the site redevelopment process.

The results of the pre-construction subsurface investigation conducted in November and December 2015 indicate the presence of elevated concentrations of volatile organic compounds (VOCs), primarily vinyl chloride and benzene, beneath the site, with the most elevated levels of vinyl chloride identified beneath the southwestern portion of the warehouse building (see Plate 2). The observed concentrations of vinyl chloride in soil vapor are consistent with an on-site source; however, the investigation results did not identify a source of the vinyl chloride in site soil. Additionally, groundwater sampling was not part of the November and December 2015 scope of work and is a component of the proposed scope of work.

The objective of the proposed supplemental pre-construction subsurface investigation is to further evaluate the subsurface for the presence of VOCs, particularly vinyl chloride, to identify potential on- or off-site sources and provide data in support of developing remedial or mitigation measures appropriate for the proposed development, as warranted. The supplemental investigation will focus primarily on the southwestern portion of the site, where concentrations of VOCs indicative of a potential source were identified during the November and December 2015 investigation.

## **BACKGROUND INFORMATION**

Please refer to the Revised Pre-Construction Work Plan for Background Information, including current site and vicinity characteristics, as well as a discussion of subsurface conditions.

## **SCOPE OF WORK**

The scope of work to be conducted is presented below. The scope of work includes collection and analysis of soil gas samples from 14 locations, soil samples from 23 locations, and a grab groundwater sample from one location at the site. As shown on Plate 2, the locations are focused within the vicinity of previous soil gas samples SV22 and SV25, in which the highest levels of vinyl chloride in soil gas were detected. Where feasible, soil gas and soil samples will be collected from the same boring.

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### **Field Planning Activities**

Prior to initiating field activities at the site, PES will update our site-specific Health and Safety Plan (HASP). The HASP will comply with applicable federal and California Occupational Safety and Health Administration (OSHA) guidelines. A drilling permit will be obtained from the Alameda County Public Works Agency, Water Resources Section (ACPWA).

Underground Service Alert will be contacted to schedule visits by public and private utility companies to locate their underground utilities. In addition, a private underground utility locating service will be contracted to conduct a subsurface electromagnetic survey to screen the proposed sampling locations for the presence of subsurface utilities.

### **Soil Vapor, Soil, and Grab Groundwater Sampling Activities**

Soil vapor, soil, and/or grab groundwater sampling will be conducted using a limited-access direct push technology drill rig at 23 locations at the site, as shown on Plate 3, including:

- One soil boring to be advanced co-located with previous sample location SV22, where elevated concentrations of vinyl chloride were detected in soil vapor during the November and December 2015 investigation, to evaluate potential on-site source areas within the vadose zone and potential impact to groundwater;
- Eight 5-foot soil vapor probes to be installed in the southwestern portion of the warehouse building to further define the extent of vinyl chloride in soil vapor in the vicinity of previous sample locations SV22 and SV25 where elevated concentrations of vinyl chloride were detected in soil vapor during the November and December 2015 investigation;
- Five shallow soil borings to be advanced within the existing warehouse building to evaluate potential on-site vadose zone source areas in the vicinity of previous sample locations SV22 and SV25 where elevated concentrations of vinyl chloride were detected in soil vapor during the November and December 2015 investigation;
- Four soil vapor probes to be installed at 5 and 10 feet bgs within the alleyway located immediately south of the existing warehouse building to further define the extent of vinyl chloride in soil vapor near the southern property boundary;
- Four shallow soil borings to be advanced within the alleyway located immediately south of the existing warehouse building to evaluate potential on-site vadose zone source areas near the southern property boundary;

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- One 10-foot soil vapor probe to be installed in the northwestern portion of the site to further define the extent of vinyl chloride in deeper soil vapor near the northwestern site boundary; and
- One 10-foot semi-permanent soil vapor probe to be installed in the eastern portion of the site, co-located with previous sample location SV7, to re-assess soil vapor conditions at 10 feet bgs where laboratory reporting limits for vinyl chloride have previously been above applicable screening levels<sup>1</sup>.

Soil vapor probe installation and sampling will be conducted in accordance with the procedures outlined in the *Advisory – Active Soil Gas Investigations* published by the Department of Toxic Substances Control, the Regional Water Quality Control Board, Los Angeles Region and the RWQCB dated July 2015 as described in the Revised Pre-Construction Work Plan.

At each location scheduled for shallow soil sampling (including each soil vapor sampling location), the boring will be advanced to between approximately 5 and 10 feet below ground surface (bgs). Soil cores will be collected continuously from each location and soil samples will be collected for lithologic description, field screening for VOCs, and possible chemical analysis in accordance with the methods described in the Revised Pre-Construction Work Plan. At a minimum, soil samples will be collected for analysis at depths immediately below the surface pavement or building slab and aggregate base material, if present, and at 5 feet bgs. Additional soil samples will be collected for analysis at select locations at a depth of 10 feet bgs and additional depth intervals if warranted based on field screening results and/or lithology.

At the location scheduled for grab groundwater sampling, the boring will be advanced to approximately 5 feet below first-encountered groundwater (anticipated to be present at a depth between approximately 10 and 12 feet bgs) and a temporary well will be installed using one-inch diameter polyvinyl chloride (PVC) casing. The grab groundwater samples will be collected using a new disposable polyethylene bailer or equivalent. During sample collection PES will attempt to minimize, to the best extent practicable, the amount of sediment entering the sample container.

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<sup>1</sup> If elevated laboratory reporting limits are necessitated due to high concentrations of non-target analytes, PES will instruct the laboratory to perform additional analytical runs within the target concentration range to attempt to achieve reporting limits below applicable site screening levels, where feasible.

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The soil and grab groundwater samples will be placed in an ice-chilled, insulated cooler and transported to TestAmerica Laboratories, Inc. (TestAmerica) under chain-of-custody protocol. PES anticipates submitting a total of 48 soil samples for analysis for VOCs including MEK, MIBK, and naphthalene by U.S. Environmental Protection Agency (U.S. EPA) Test Method 8260B (collected in accordance with U.S. EPA Method 5035 using Terracore™ samplers) and one grab groundwater sample for analysis for VOCs including MEK, MIBK, and naphthalene by U.S. EPA Test Method 8260B and 1,4-dioxane by U.S. EPA Test Method 8270 SIM.

Upon completion of soil and grab groundwater sampling, each borehole will be filled from the bottom of the borehole to the ground surface with neat cement grout (using a tremie pipe for borings containing more than six inches of water) in accordance with ACPWA requirements, and the ground surface will be restored to match existing conditions. Reusable downhole drilling and sampling equipment will be decontaminated using a high-pressure, hot water wash or Alconox™ wash and triple rinse prior to collecting each soil sample.

### **Handling, Storage, and Disposal of Investigation-Derived Waste**

Investigation-derived waste (IDW) generated during the supplemental pre-construction subsurface investigation will be temporarily stored on the site. The IDW will be stored in secured, labeled 55-gallon steel drums until proper off-site management in accordance with applicable State and Federal laws can be arranged. The IDW will be disposed or recycled based on the results of the laboratory analyses.

### **Reporting**

A description of the methods and procedures of the above-referenced scope of work will be presented in a report along with the results of the sampling activities and the November and December 2015 pre-construction investigation. The report will also provide tabulated data, illustrations showing select contaminant concentrations, laboratory analytical reports, findings of the completed scope of work, and recommendations, as appropriate. Additionally, the report will include updated geologic cross-sections showing the proposed development, including locations of the building foundation, residential units, and utility trenches, to the extent practicable based on available information.

The soil gas soil, and grab groundwater sampling results will be submitted electronically to the State Water Resources Control Board Geotracker database and ACEH file transfer protocol (ftp) site.

**Mr. Mark Detterman**  
**January 21, 2016**  
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**SCHEDULE**

The project schedule has been developed as follows: (1) field preparation activities are tentatively scheduled for January 27 and 29, 2016; (2) the soil gas, soil, and groundwater supplemental investigation is tentatively scheduled for February 1 through 3, 2016, weather permitting; (3) waste disposal to be conducted within approximately four weeks following receipt of the IDW sampling laboratory results; and (4) a report is expected to be submitted to ACEH by approximately February 12, 2016.

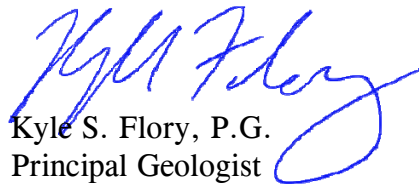
Please call Kyle Flory at (415) 899-1600 if you have any questions or comments regarding this document.

Very truly yours,

**PES ENVIRONMENTAL, INC.**



Morgan G. Jones, P.G.  
Project Geologist



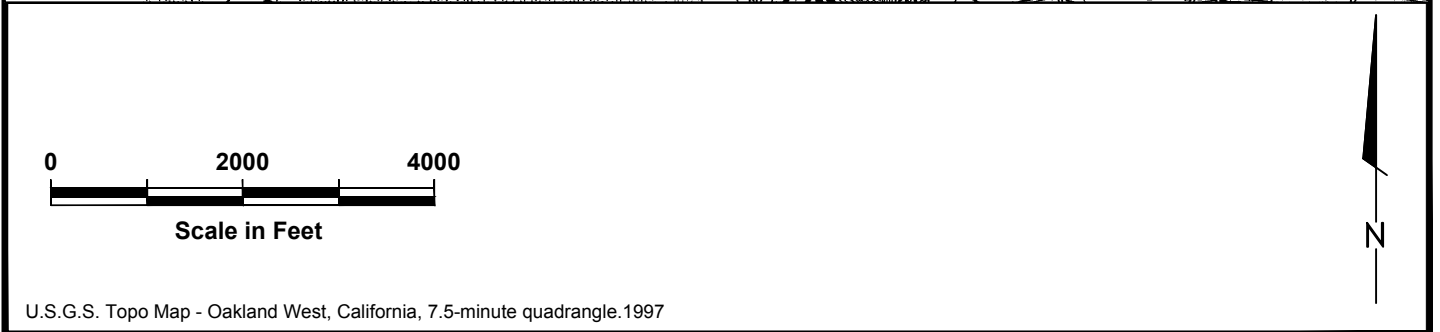
Kyle S. Flory, P.G.  
Principal Geologist

Attachments: Plate 1 – Site Location Map  
Plate 2 – Site Plan Showing Soil Vapor Analytical Results – Vinyl Chloride  
Plate 3 – Site Plan Showing Proposed Soil Vapor, Soil, and Grab Groundwater  
Sample Locations  
Attachment A – Summary of Soil Vapor Analytical Results

cc: Rachel Green – Anton Emeryville, LLC

**PLATES**



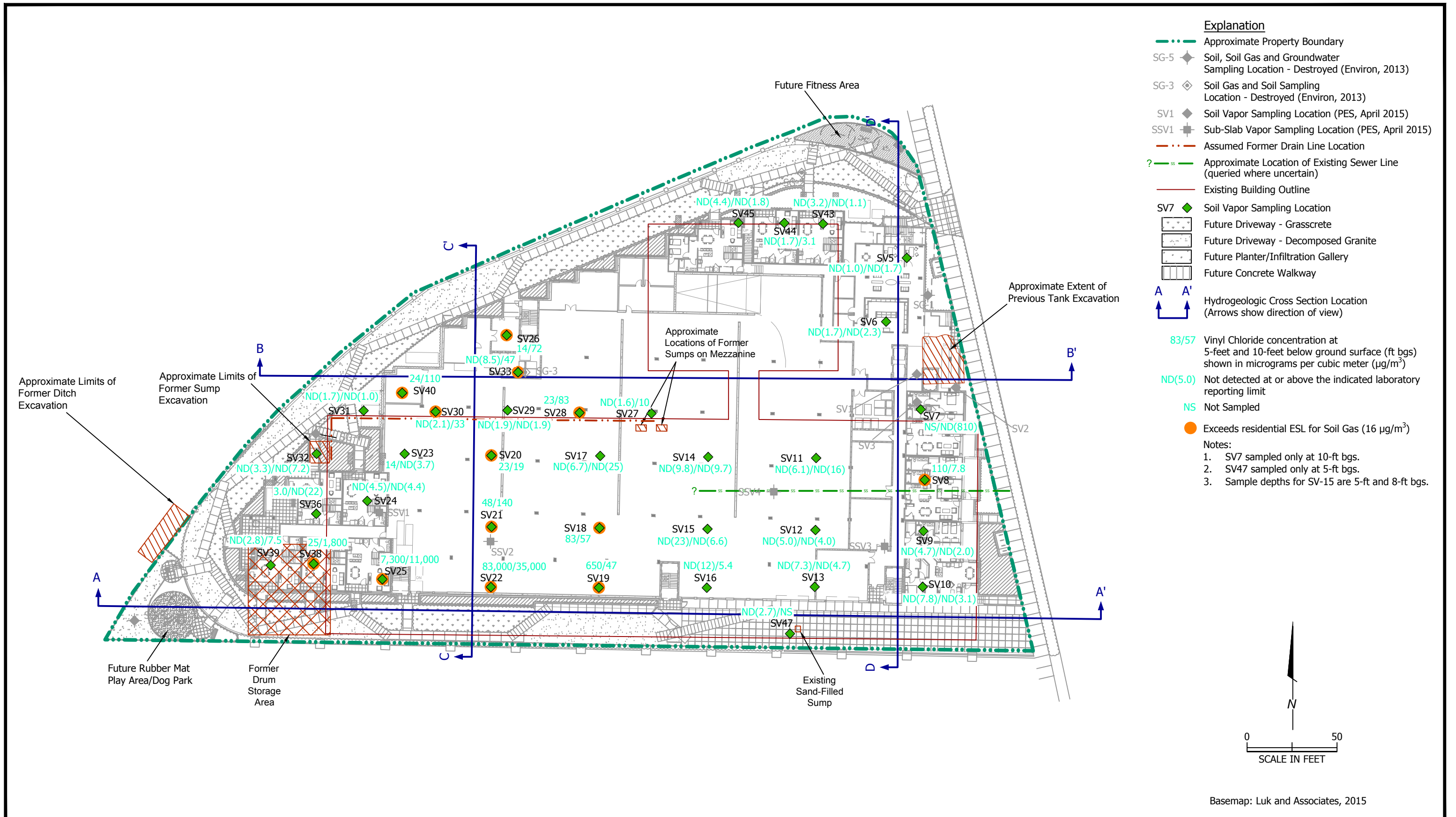


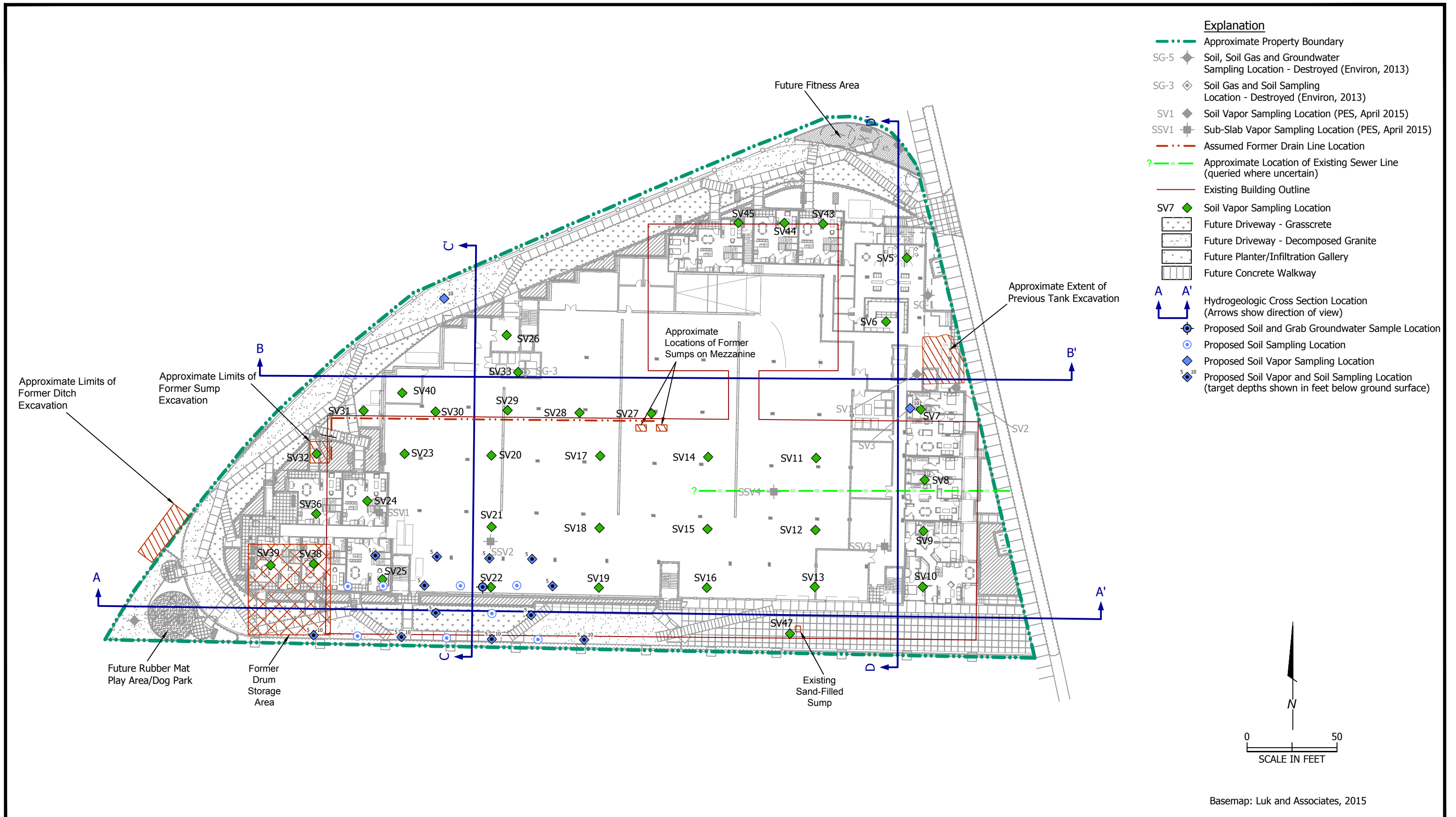
**Site Location Map**

Work Plan for Supplemental  
Pre-Construction Subsurface Investigation  
6701, 6705, and 6707 Shellmound Street  
Emeryville, California

PLATE

**1**





**ATTACHMENT A**

**SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS**

**Attachment A**  
**Summary of Soil Vapor Analytical Results**  
**Pre-Construction Subsurface Investigation**  
**6701, 6705, and 6707 Shellmound Street, Emeryville, California**

Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-DCE (µg/m³)	Vinyl chloride (µg/m³)	1,1,1-TCA (µg/m³)	1,1,2,2-PCA (µg/m³)	MEK (µg/m³)	MIBK (µg/m³)	Acetone (µg/m³)	Benzene (µg/m³)	Toluene (µg/m³)	Ethylbenzene (µg/m³)	m,p-Xylene (µg/m³)	o-Xylene (µg/m³)	1,2,4-TMB (µg/m³)	1,3,5-TMB (µg/m³)	4-Ethyltoluene (µg/m³)	Carbon disulfide (µg/m³)	Chloroform (µg/m³)	Other VOCs (µg/m³)	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	< 1.0	< 1.6	< 2.7	55	< 1.6	120	12	8.9	2.6	25	3.8	8.5	3.2	< 2.0	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	< 3.0	< 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	< 4.0	< 8.0	< 4.0	< 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
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	< 2.0	< 2.0	33	< 1.5	2.9 (CM), 3.2 (MC)	1.0	0.69	1.4	< 0.10
	SV8-10	10.0	12/3/2015	< 8.6	< 6.8	< 5.0	< 5.0	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	< 8.0	20	< 8.0	< 18	< 9.0	< 9.0	< 11	< 6.7	ND	--	--	--	0.93
	SV9-10	10.0	12/2/2015	< 5.4	< 4.3	< 3.2	< 3.2	< 2.0	< 3.3	< 5.5	48	140	160	< 2.6	3.9	< 3.5	7.5	3.9	< 7.9	< 3.9	< 3.9	< 5.0	< 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	< 5.0	< 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	< 8.0	< 13	37	< 8.0	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	< 9.0	< 9.0	44	< 6.7	ND	< 1.0	15	1.8	< 0.20
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	--	--	--	< 0.20
	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	--	--	--	< 0.20
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	< 9.0	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	< 1.0	2.0	< 0.20
	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	< 0.20
SV24	SV24-5	5.0	11/30/2015	< 12	< 9.5	< 7.0	< 7.0	< 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	18										

**Attachment A**  
**Summary of Soil Vapor Analytical Results**  
**Pre-Construction Subsurface Investigation**  
**6701, 6705, and 6707 Shellmound Street, Emeryville, California**

Sample Location	Sample ID	Sample Depth (feet bgs)	Date Sampled	PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-DCE (µg/m³)	Vinyl chloride (µg/m³)	1,1,1-TCA (µg/m³)	1,1,2,2-PCA (µg/m³)	MEK (µg/m³)	MIBK (µg/m³)	Acetone (µg/m³)	Benzene (µg/m³)	Toluene (µg/m³)	Ethylbenzene (µg/m³)	m,p-Xylene (µg/m³)	o-Xylene (µg/m³)	1,2,4-TMB (µg/m³)	1,3,5-TMB (µg/m³)	4-Ethyltoluene (µg/m³)	Carbon disulfide (µg/m³)	Chloroform (µg/m³)	Other VOCs (µg/m³)	Carbon Dioxide (% v/v)	Methane (% v/v)	Oxygen (% v/v)	Helium (% v/v)
SV33	SV33-5	5.0	12/1/2015	< 22	< 18	< 13	< 13	< 8.5	< 14	< 23	<b>34</b>	< 14	<b>230</b>	<b>37</b>	<b>20</b>	< 14	<b>30</b>	< 14	< 33	< 16	< 16	<b>24</b>	< 12	ND	--	--	--	< 0.17
	SV33-10	10.0	12/1/2015	< 46	< 37	< 27	< 27	<b>47</b>	< 28	<b>430</b>	< 40	<b>970</b>	< 200	< 22	<b>65</b>	<b>70</b>	<b>350</b>	<b>80</b>	< 67	< 34	< 34	< 43	< 25	ND	--	--	--	< 0.17
SV36	SV36-5	5.0	12/1/2015	< 7.9	< 6.3	< 4.6	< 4.6	<b>3.0</b>	< 4.8	<b>21</b>	<b>16</b>	<b>8.3</b>	<b>77</b>	<b>5.7</b>	<b>9.0</b>	< 5.1	< 10	<b>5.0</b>	< 11	< 5.7	< 5.7	< 7.2	< 4.3	ND	<b>3.6</b>	< 1.2	<b>17</b>	< 0.23
	SV36-10	10.0	12/1/2015	< 58	< 46	< 34	< 34	< 22	< 35	<b>2,500</b>	< 51	<b>370</b>	< 260	<b>150</b>	<b>41</b>	<b>210</b>	< 75	<b>250</b>	< 85	< 42	< 42	<b>53</b>	< 31	<b>170 (BC)</b>	<b>2.0</b>	<b>11</b>	<b>10</b>	< 0.17
SV38	SV38-5	5.0	11/30/2015	< 17	< 13	< 9.7	< 9.7	<b>25</b>	< 10	< 17	<b>85</b>	< 10	<b>460</b>	<b>18</b>	<b>24</b>	< 11	< 21	< 11	< 24	< 12	< 12	<b>110</b>	<b>48</b>	ND	<b>0.99</b>	<b>13</b>	<b>2.4</b>	< 0.18
	SV38-10	10.0	11/30/2015	< 40	< 32	<b>160</b>	<b>54</b>	<b>1,800</b>	< 24	< 41	<b>78</b>	< 24	<b>310</b>	<b>150</b>	<b>30</b>	< 26	< 52	< 26	< 59	< 29	< 29	<b>320</b>	< 22	ND	< 0.89	<b>67</b>	<b>1.6</b>	< 0.18
SV39	SV39-5	5.0	12/1/2015	< 7.5	< 6.0	< 4.4	< 4.4	< 2.8	< 4.6	< 7.6	<b>61</b>	< 4.6	<b>290</b>	<b>17</b>	<b>17</b>	<b>39</b>	<b>23</b>	<b>4.8</b>	< 11	< 5.5	< 5.5	<b>110</b>	<b>4.1</b>	ND	< 0.96	< 0.96	<b>24</b>	<b>0.19</b>
	SV39-10	10.0	12/1/2015	< 8.1	<b>9.0</b>	<b>38</b>	<b>63</b>	<b>7.5</b>	< 4.9	< 8.2	<b>49</b>	< 4.9	<b>200</b>	<b>130</b>	<b>71</b>	<b>99</b>	<b>220</b>	<b>65</b>	<b>62</b>	<b>43</b>	<b>23</b>	<b>140</b>	< 4.4	ND	< 0.94	<b>3.4</b>	<b>22</b>	< 0.19
SV40	SV40-5	5.0	12/1/2015	< 17	<b>13</b>	<b>42</b>	<b>10</b>	<b>24</b>	< 10	<b>27</b>	<b>29</b>	<b>38</b>	<b>180</b>	<b>25</b>	<b>14</b>	< 11	< 22	< 11	< 25	< 12	< 12	<b>43</b>	< 9.2	ND	--	--	--	< 0.19
	SV40-10	10.0	12/1/2015	< 62	< 49	< 36	< 36	<b>110</b>	< 38	<b>640</b>	< 54	<b>73</b>	< 270	<b>50</b>	< 35	< 40	<b>160</b>	<b>130</b>	< 90	< 45	< 45	< 57	< 34	ND	--	--	--	< 0.18
SV43	SV43-5	5.0	12/1/2015	< 8.5	< 6.7	< 5.0	< 5.0	< 3.2	< 5.1	< 8.6	<b>17</b>	<b>21</b>	<b>76</b>	<b>25</b>	<b>9.1</b>	< 5.4	< 11	< 5.4	< 12	< 6.2	< 6.2	<b>15</b>	<b>12</b>	ND	--	--	--	< 0.19
	SV43-10	10.0	12/1/2015	< 3	< 2.4	<b>1.8</b>	< 1.8	< 1.1	< 1.8	<b>7.5</b>	<b>15</b>	< 1.8	<b>42</b>	<b>5.1</b>	<b>4.9</b>	< 1.9	<b>5.3</b>	<b>1.9</b>	< 4.4	< 2.2	< 2.2	<b>6.5</b>	< 1.6	<b>3.3 (BC)</b>	--	--	--	< 0.18
SV44	SV44-5	5.0	12/1/2015	< 4.5	< 3.6	< 2.6	< 2.6	< 1.7	< 2.7	< 4.6	<b>49</b>	< 2.7	<b>220</b>	<b>50</b>	<b>17</b>	<b>30</b>	<b>22</b>	<b>13</b>	<b>16</b>	<b>3.7</b>	<b>6.9</b>	<b>60</b>	< 2.4	<b>17 (NAPH)</b>	< 0.83	< 0.83	<b>24</b>	< 0.17
	SV44-10	10.0	12/1/2015	< 5.9	< 4.7	<b>21</b>	< 3.5	<b>3.1</b>	< 3.6	< 6.0	<b>28</b>	< 3.6	<b>130</b>	<b>5.6</b>	<b>4.7</b>	< 3.8	< 7.6	< 3.8	< 8.6	< 4.3	< 4.3	<b>26</b>	< 3.2	ND	<b>9.3</b>	<b>0.92</b>	<b>2.3</b>	< 0.16
SV45	SV45-5	5.0	12/1/2015	< 12	< 9.2	<b>6.6</b>	< 6.8	< 4.4	< 7.0	< 12	<b>110</b>	< 7.0	<b>540</b>	<b>51</b>	<b>14</b>	<b>10</b>	<b>50</b>	<b>15</b>	< 17	< 8.4	< 8.4	<b>45</b>	<b>22</b>	ND	<b>5.8</b>	< 0.90	<b>14</b>	<b>0.34</b>
	SV45-10	10.0	12/1/2015	< 4.9	< 3.9	<b>9.5</b>	< 2.9	< 1.8	< 2.9	< 4.9	<b>76</b>	< 2.9	<b>170</b>	<b>16</b>	<b>8.3</b>	<b>6.0</b>	<b>33</b>	<b>12</b>	<b>9.7</b>	<b>4.4</b>	< 3.5	<b>7.7</b>	<b>4.9</b>	<b>3.4 (BC)</b>	<b>11</b>	< 0.90	<b>4.0</b>	<b>0.36</b>
SV47	SV47-5	5.0	12/3/2015	< 7.2	< 5.7	<b>8.8</b>	< 4.2	< 2.7	<b>5.7</b>	< 7.2	<b>38</b>	< 4.3	<b>250</b>	<b>13</b>	<b>24</b>	< 4.6	<b>11</b>	< 4.6	< 10	< 5.2	< 5.2	<b>22</b>	< 3.9	ND	--	--	--	< 0.21
<b>Residential Land Use ESL (Soil Gas)<sup>1</sup></b>				<b>210</b>	<b>300</b>	<b>3,700</b>	<b>31,000</b>	<b>16</b>	<b>2,600,000</b>	<b>21</b>	<b>2,600,000</b>	<b>1,600,000</b>	<b>16,000,000</b>	<b>42</b>	<b>160,000</b>	<b>490</b>	<b>52,000</b>	<b>52,000</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>230</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>

**Notes:**  
 Detections are shown in bold. Results equal to or exceeding applicable regulatory screening levels are shaded.  
 PCE = Tetrachloroethene.  
 TCE = Trichloroethene.  
 DCE = Dichloroethene.  
 TCA = Trichloroethane.  
 PCA = Tetrachloroethane  
 MEK = 2-Butanone  
 MIBK = 4-Methyl-2-pentanone  
 TMB = Trimethylbenzene.  
 CB = Chlorobenzene.  
 CM = Chloromethane.  
 DCA = Dichloroethane.  
 DCB = Dichlorobenzene  
 BC = Benzyl chloride  
 Freon 11 = Trichlorofluoromethane  
 Freon 21 = Dichlorofluoromethane  
 TCD = Carbon Dioxide  
 MC = Methylene Chloride  
 NAPH = Naphthalene  
 VOCs = Volatile organic compounds.  
 bgs = Below ground surface.  
 µg/m³ = 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. ESL = December 2013 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs), Table E-2 Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion.