



City and County of San Francisco
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH

London Breed, Mayor
Grant Colfax MD, Director of Health
Patrick Fosdahl, MS, REHS
Acting Director, Environmental Health

August 4, 2020

180 Jones Street LP
201 Eddy Street
San Francisco, CA 94102
c/o Jackson Rabinowitsh

Subject: SFHC Article 22A Compliance
180 Jones Street Development
San Francisco, CA
EHB-SAM Case Number: 1961

Dear Mr. Rabinowitsh:

The San Francisco Department of Public Health, Environmental Health Branch, Site Assessment and Mitigation (EHB-SAM) previously reviewed and approved documents that you submitted. A list of the documents reviewed, details from those reviews and further background about the site can be found in the EHB-SAM [Phase II Work Plan Approval dated May 19, 2020](#). The specific documents reviewed included:

- [Geotechnical Report, 180 Jones Street, San Francisco, prepared by Earth Mechanics Consulting Engineers, November 2007](#)
- [Phase I Environmental Site Assessment, 180 Jones Street/199 Turk Street, San Francisco, prepared by Innovative and Creative Environmental Solutions \(ICES\), January 2019](#)
- [Phase I Environmental Site Assessment Report, 180 Jones Street, San Francisco, prepared by AEW Engineering \(AEW\), March 2020](#)
- [Draft Phase II Environmental Site Assessment Work Plan, 180 Jones Street, San Francisco, version 2, prepared by AEW, May 2020](#)

The document reviewed for this approval was:

- [Phase II Environmental Site Assessment Report, 180 Jones Street, San Francisco, prepared by AEW, July 2020](#)

Proposed Project Scope

Planned development of site includes construction of a new 9-story affordable housing facility. The facility will include a small community room, management offices, and utility rooms on the ground floor as shown on the [180 Jones ground floor plan](#). The depth of excavation does not exceed 8 feet throughout most of the site with a maximum of 12 feet. According to the Tenderloin Neighborhood Development Corporation (TNDC), there will be approximately 4 feet

of excavation in the northwest corner and 6 feet in the northeast. The deeper excavation is for utilities and the elevator pit in the center of the property.

Phase II Subsurface Investigation Findings

Soil

AEW installed six borings at the site. Soil samples were collected from multiple depths in two (2) boring locations down to 12 feet bgs and from four (4) boring locations down to 8 feet bgs. Soil samples were collected at approximately 0.5 feet, 2.5 feet, 5 feet, and 7.5 feet from AEW-1 through AEW-6. Samples were also collected at 10 and 12 feet from borings AEW-1 and AEW-2. Samples were composited by depth so that there ended up being three shallow (0.5 and 2.5 feet) composite samples, two medium depth (5 and 7 feet) composite samples, and one deep (7.5, 10 and 12 feet) composite sample.

Field measurements were taken for methane using a flame ionization detector as described in the report and methane was detected in all samples at less than 13 ppmv except for two samples where it was detected at 137 ppmv in a 2.5 foot sample and at 493 ppmv in a 12 foot sample.

Results of the chemical analyses of the soil samples are presented in tables ([copies attached](#)):

- [Table 2](#) for Title 22 Metals and Asbestos Analyses;
- [Table 3](#) for Total Petroleum Hydrocarbons, BTEX, MTBE, VOCs, Pesticides, and PCBs Analyses; and
- [Table 4](#) for SVOCs Analyses

Arsenic, lead, benzene, and benzo(a)pyrene were reported in soil samples above the respective regulatory criteria. Other metals, TPH, BTEX, SVOCs were detected below the screening criteria. The soil samples were non-detect for asbestos, VOCs, pesticides, PCBs and MTBE. Based on the following rationale, AEW concluded that the subsurface soil is not expected to pose significant adverse impacts to human health and the environment:

- Soil represented by these samples may be either excavated during future site development or remain under the building. The building foundation and surrounding sidewalks will act as physical barriers to minimize chemical exposure to humans after construction. Exposure to arsenic and lead from the site is not likely, provided that the hardscape is properly maintained;
- There is no current or future anticipated beneficial use of groundwater at the site and groundwater was not detected in any of the borings;
- Detected arsenic concentrations are within published background concentrations and are therefore considered to be naturally occurring.

Soil Vapor

Soil vapor probes SVP-1 and SVP-2 were installed using a direct push drilling rig and were completed as follows:

- The borehole was advanced to a depth of five feet below existing ground surface;
- A soil vapor probe tip was placed at a depth of 4.5 feet, and surrounding by one foot of sand pack (from 4 to 5 feet bgs);
- Six inches of dry granular bentonite were placed above the sand pack, followed by hydrated bentonite from approximately 3.5 feet bgs to the surface.

Following installation, the soil vapor points were left undisturbed for a minimum of two hours to allow equilibration, then sampled following the California Department of Toxic Substances Control's Advisory – Active Soil Gas Investigations (DTSC, 2015).

Benzene, ethylbenzene, and PCE were detected in both soil vapor samples at levels above the respective Tier 1 and Residential ESLs as shown on [Table 5](#). TPH, BTEX and a few other non-chlorinated VOC's were detected below the screening levels. Since the Site has been a vacant/parking lot almost continuously since the early 1900's, it is likely that the soil vapor concentrations are due to soil vapor or groundwater contamination impacts from properties in the surrounding area.

Request for Site Mitigation Plan with Passive Vapor Mitigation System

We agree with your assessment that a passive vapor mitigation system (VMS) is required to alleviate the potential risk due to the benzene, ethylbenzene, and PCE detected in soil vapor. Please submit a Site Mitigation Plan with the details of the passive vapor mitigation system. At a minimum, please include the following elements in the VMS design:

- Venting layer details.
- Vapor barrier system layering details, including barrier construction, installation, and protection procedures.
- A VMS design that is compatible with conversion from passive to active operation, if required in the future.
- One vapor sampling point installed in the venting layer perhaps in the center under the [three foot thick ground floor slab](#) where vapors could potentially be trapped in between or adjacent to the deeper slabs. (i.e. elevator/lower exit/trash room etc.) Connect the one vapor sampling point to appropriate tubing connected to an easily accessible port installed in a locked box preferably in an exterior wall or similar. Include an appropriate label on the locked cover/port so that it can be used in the future for the future sampling event(s).
- Venting pipes and appurtenances, with access and instrumentation to confirm continuous outward/upward flow appropriate for a passive VMS

Please include testing procedures to verify the effectiveness of the VMS operation. Also include procedures for at least one round of sub-slab, indoor, and outdoor sampling for target VOCs and radon after the building is built and weather tight and before tenant improvement finishing elements (i.e. carpet, etc) have been installed. This testing should be designed by an appropriate professional and may include radon testing to verify the attenuation associated with the barrier system (i.e. radon is not a COC). Once construction and one round of sampling are complete, a

VMS maintenance plan or similar and the sampling results, proving correct operation of the system, will need to be submitted with the Closure Report for our review and approval.

Please list your appropriate and applicable dust management and monitoring protocols in your Site Mitigation Plan (as required by Article 22B requirements and CCR Title 17 Section 93105).

All proper soil and waste management and handling protocols shall be developed and implemented by a future contractor to address the handling and management of soil and waste on this project in accordance with your waste classification analysis in Section 5 of your Phase II report. The results of this work will need to be documented in the Closure Report.

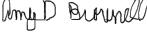
To ensure the safety of personnel during construction, a health and safety program shall be developed and implemented to protect workers from exposures to chemicals in accordance with the applicable federal and state Occupational Safety and Health Administration's (OSHA) regulations. Copies of the Environmental Health and Safety plans and proof of employee training on potential chemical exposures or unknown conditions, as required, shall be included in the Closure Report.

Since benzene, ethylbenzene, and PCE were detected above the ESL on the site, a deed restriction will be recorded for 180 Jones Street. Please advise if you have additional parties that you wish to be included in the correspondence about the deed restriction.

We look forward to receiving your Site Mitigation Plan including the passive VMS and dust management details.

Should you have any questions, please contact me at (415) 252-3967 or amy.brownell@sfdph.org.

Sincerely,

DocuSigned by:

CAA184D2A99D4F3...

Amy Brownell, P.E.
Environmental Engineer

cc: Jeanie Poling, SFCPC
Carrie Pei, Daniel Lowrey, and Gary Ho (SFDBI)
Jackson Rabinowitz, TNDC
Kenneth Leung, AEW

TABLE 2
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES

		Title 22 17-Metals										
		Sb	As	Ba	Be	Cd	Cr	WET Cr	Co	Cu	Pb	WET Pb
Unit	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L
Risk Regulatory and Reference Criteria												
USEPA RSL Residential	31	0.68	15000	160	71	120000	NA	23	3100	400	NA	NA
ESL - Construction Workers	50	0.98	3000	27	51	530000	NA	28	14000	160	NA	NA
ESL - Residential	11	0.26	15000	16	78	120000	NA	23	3100	80	NA	NA
DTSI's SLS - Residential	NA	0.11	NA	15	5.2	360000	NA	NA	NA	80	NA	NA
Hazardous Waste Criteria												
TTLC	500	500	10000	75	100	2500	NA	8000	2500	1000	NA	NA
10 x STLC	150	50	1000	7.5	10	50	NA	800	250	50	NA	NA
STLC	NA	NA	NA	NA	NA	NA	5	NA	NA	5	NA	NA
20 x TCLP	NA	100	2000	NA	20	100	NA	NA	NA	100	NA	NA
TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Range of Potential Background Concentration												
Shaklette and Boerngen	0.62	7.0	670	0.97	NA	56	NA	9.0	27	20	NA	NA
LBNL	<6	24	410	1.0	5.6	120	NA	25	63	43	NA	NA
Bradford et al.	0.60	3.5	509	1.28	0.36	122	NA	14.9	28.7	23.9	NA	NA
See Note for Assumptions on Statistical Evaluation												
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: 0.97 Max: 9.7 Ave: 3	Min: 3.1 Max: 9.4 Ave: 5	Min: 44 Max: 120 Ave: 73	Min: <0.5 Max: <0.5 Ave: 1	Min: <0.25 Max: 0.62 Ave: 0	Min: 45 Max: 69 Ave: 54	Min: <0.1 Max: <0.1 Ave: 7	Min: 5.5 Max: 120 Ave: 58	Min: 47 Max: 360 Ave: 217	Min: 0.13 Max: 1.3 Ave: 0.56
Soil Samples												
AEW-1, AEW-2 0.5 & 2.5 Composite		AEW-1 0.5	0.5	2.5	2.2	4.6	62	<0.5	<0.25	69	<0.10	7.3
		AEW-1 2.5'	0.5	2.5								
AEW-2 2.5'		AEW-2 5.0'	5									
AEW-1 5.0'		AEW-1 7.5'	7.5									
AEW-1, AEW-2 0.5 & 2.5 Composite		AEW-1 10'	10									
AEW-1, AEW-1 12'		AEW-1 12'	12	3.6	9.4	120	<0.5	<0.25	51	0.1	12	82
AEW-2 5.0'		AEW-2 10'	5									
AEW-2 10'		AEW-2 12'	10									
AEW-3, AEW-6, 0.5 & 2.5 Composite		AEW-3 0.5'	0.5									
AEW-3 0.5'		AEW-3 2.5'	2.5	0.97	3.1	44	<0.5	0.35	52	<0.10	6.2	31
AEW-6 0.5'		AEW-6 2.5'	0.5	2.5								
AEW-6 2.5'												



TABLE 2 (Cont'd)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES

		Title 22 17-Metals								
		Hg mg/Kg	Mo mg/Kg	Ni mg/Kg	Se mg/Kg	Ag mg/Kg	Tl mg/Kg	V mg/Kg	Zn mg/Kg	Asbestos %
Risk Regulatory and Reference Criteria										
USEPA RSL Residential	11	390	1500	390	0.78	390	23000	NA	NA	
ESL - Construction Workers	44	1800	86	1700	3.5	470	110000	NA	NA	
ESL - Residential	13	390	820	390	0.78	390	23000	NA	NA	
DTSI's SLS - Residential	1.0	NA	490	NA	390	NA	390	NA	NA	
Hazardous Waste Criteria										
TTLC	20	3500	2000	100	500	700	2400	5000	1	
10 x STLC	2	3500	200	10	50	70	240	2500	NA	
STLC	NA	NA	NA	NA	NA	NA	NA	NA	NA	
20 x TCLP	4	NA	NA	20	100	NA	NA	NA	NA	
TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Range of Potential Background Concentration										
Shaklette and Boerngen	0.065	1.1	19	0.34	NA	NA	88	65	NA	
LBNL	0.42	4.8	272	4.9	2.9	10	90	140	NA	
Bradford et al.	0.26	1.3	57	0.058	0.80	0.56	112	149	NA	
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: 0.16 Max: 0.93 Ave: 1	Min: <0.5 Max: 1.8 Ave: 1	Min: 23 Max: 34 Ave: 28	Min: <0.5 Max: 0.83 Ave: 1	Min: <0.5 Max: 0.68 Ave: 1	Min: 48 Max: 68 Ave: 58	Min: 99 Max: 250 Ave: 133	
Soil Samples										
AEW-1, AEW-2 0.5 & 2.5 Composite		AEW-1 0.5	0.5	0.9	<0.5	29	0.78	0.68	<0.5	
		AEW-1 2.5'	2.5	0.5						
		AEW-2 2.5'	2.5							
AEW-1, AEW-2 5 & 7.5 & 10 & 12Composite		AEW-1 5.0'	5							
		AEW-1 7.5'	7.5							
		AEW-1 10'	10							
		AEW-1 12'	12							
		AEW-2 5.0'	5							
		AEW-2 10'	10							
		AEW-2 12'	12							
AEW-3, AEW-6, 0.5 & 2.5 Composite		AEW-3 0.5'	0.5	0.16	<0.5	24	<0.5	<0.5	62	
		AEW-3 2.5'	2.5							
		AEW-6 2.5'	2.5							





TABLE 2 (Cont'd)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES

Title 22 17-Metals										
	Sb	As	Ba	Be	Cd	Cr	WET Cr	Co	Cu	Pb
Unit	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	TCLP Pb
Risk Regulatory and Reference Criteria										
USEPA RSL Residential	31	0.68	15000	160	71	120000	NA	23	3100	400
ESL - Construction Workers	50	0.98	3000	27	51	530000	NA	28	14000	160
ESL - Residential	11	0.26	15000	16	78	120000	NA	23	3100	80
DTSL's SLS - Residential	NA	0.11	NA	15	5.2	360000	NA	NA	80	NA
Hazardous Waste Criteria										
TTLC	500	500	10000	75	100	2500	NA	8000	2500	1000
10 x STLC	150	50	1000	7.5	10	50	NA	800	250	50
STLC	NA	NA	NA	NA	NA	NA	5	NA	NA	5
20 x TCLP	NA	100	2000	NA	20	100	NA	NA	100	NA
TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	5
Range of Potential Background Concentration										
Shaklette and Boerngen	0.62	7.0	670	0.97	NA	56	NA	9.0	27	20
BNL	<6	24	410	1.0	5.6	120	NA	25	63	43
Bradford et al.	0.60	3.5	509	1.28	0.36	122	NA	14.9	28.7	23.9
See Note for Assumptions on Statistical Evaluation										
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: 0.97 Max: 9.7 Ave: 3	Min: 3.1 Max: 9.4 Ave: 5	Min: 44 Max: 120 Ave: 73	Min: <0.5 Max: <0.5 Ave: 1	Min: <0.25 Max: 0.62 Ave: 0	Min: 45 Max: 69 Ave: 54	Min: <0.1 Max: <0.1 Ave: 7	Min: 5.5 Max: 12 Ave: 12
AEW-3, AEW-6, 5 & 7.5 Composite	AEW-3 5.0' AEW-3 7.5' AEW-6 5.0' AEW-6 7.5'	5 7.5 5 7.5	2 3.2	64 64	<0.5 <0.5	<0.25 <0.25	45 45	NR NR	6.2 6.2	38 38
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4 0.5' AEW-4 2.5' AEW-5 0.5' AEW-5 2.5'	0.5 2.5 0.5 2.5	1.9 3.9	49 49	<0.5 <0.5	<0.25 <0.25	51 51	<0.1 <0.1	5.5 5.5	28 28
AEW-4, AEW-5, & 7.5 Composite	AEW-4 5.0' AEW-4 7.5' AEW-5 5.0' AEW-5 7.5'	5 7.5 5 7.5	9.7 5.9	99 62	<0.5 0.62	<0.10 0.53	7.1 7.1	120 120	360 360	1.3 1.3

TABLE 2 (Cont'd)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES

		Title 22 17-Metals								
		Hg mg/Kg	Mo mg/Kg	Ni mg/Kg	Se mg/Kg	Ag mg/Kg	Tl mg/Kg	V mg/Kg	Zn mg/Kg	Asbestos %
Risk Regulatory and Reference Criteria										
USEPA RSL Residential	11	390	1500	390	0.78	390	23000	NA		
ESL - Construction Workers	44	1800	86	1700	3.5	470	110000	NA		
ESL - Residential	13	390	820	390	0.78	390	23000	NA		
DTSI's SLS - Residential	1.0	NA	490	NA	390	NA	390	NA		
Hazardous Waste Criteria										
TTLC	20	3500	2000	100	500	700	2400	5000	1	
10 x STLC	2	3500	200	10	50	70	240	2500	NA	
STLC	NA	NA	NA	NA	NA	NA	NA	NA		
20 x TCLP	4	NA	NA	20	100	NA	NA	NA		
TCLP	NA	NA	NA	NA	NA	NA	NA	NA		
Range of Potential Background Concentration										
Shaklette and Boerngen	0.065	1.1	19	0.34	NA	NA	88	65	NA	
LBNL	0.42	4.8	272	4.9	2.9	10	90	140	NA	
Bradford et al.	0.26	1.3	57	0.058	0.80	0.56	112	149	NA	
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: 0.16 Max: 0.93 Ave: 1	Min: <0.5 Max: 1.8 Ave: 1	Min: 23 Max: 34 Ave: 28	Min: <0.5 Max: 0.83 Ave: 1	Min: <0.5 Max: 0.68 Ave: 1	Min: 48 Max: 68 Ave: 58	Min: 99 Max: 250 Ave: 133	
AEW-3, AEW-6, 5 & 7.5 Composite	AEW-3 5.0' AEW-3 7.5' AEW-6 5.0' AEW-6 7.5'	5 7.5 5 7.5	0.74 <0.5	23 0.83	<0.5 0.5	<0.5 <0.5	64 64	110 110	— — — ND	
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4 0.5' AEW-4 2.5' AEW-5 0.5' AEW-5 2.5'	0.5 2.5 0.5 2.5	0.25 <0.5	24 0.66	<0.5 <0.5	48 48	110 110	— — ND		
AEW-4, AEW-5, 5 & 7.5 Composite	AEW-4 5.0' AEW-4 7.5' AEW-5 5.0' AEW-5 7.5'	5 7.5 5 7.5	0.77 0.64	31 0.64	<0.5 <0.5	55 55	250 250	ND —		

TABLE 2 (Cont'd)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES

General Notes :

Sb = Antimony, As = Arsenic, Ba = Barium, Be = Beryllium, Cd = Cadmium, Cr = Chromium, Cr VI = Chromium VI, Co = Cobalt, Cu = Copper, Pb = Lead, Hg = Mercury, Mo = Molybdenum, Ni = Nickel, Se = Selenium, Ag = Silver, Tl = Thallium, V = Vanadium, and Zn = Zinc.

Regulatory Criteria:

RSL - Residential I = USEPA's Regional Screening Levels under residential scenario, May 2016.
ESL - Residential = Soil ESLs for Direct Exposure Human Health Risk Levels - Residential Shallow Soil (Rev. 1 January 2019)
RWQCB Construction Worker ESLs = ESLs for Direct Exposure Soil Screening Levels Construction Worker
Exposure Scenario, Any Land Use, and Any Soil Depth, February 2016 (Revision 4, January 2019).
DTSC's SLs - Residential = California Department of Toxic Substances Control - Screening Levels for residential
scenario, June 2016.

NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
For asbestos, ND = No asbestos fiber detected.

Hazardous Waste and Recycling Facility Acceptance Criteria:

STLC = California Souble Threshold Limit Concentration
TTLIC = California Total Threshold Limit Concentration
TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure

denotes the respective concentration above the detected limit

denotes the respective concentration above at least one of the regulatory criteria listed above.

denotes the respective concentration above at least one of the hazardous waste criteria listed above.

Min = Minimum Concentration. Max = Maximum Concentration.

Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit,
the full detection limit was employed for the average estimation).

TABLE 3
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, MTBE, VOCs, PESTICIDES, AND PCB ANALYSES ON SOIL SAMPLES

Unit	Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
	TPHs-G mg/Kg	TPHs-D mg/Kg	TPHs-MO mg/Kg	Benzene mg/Kg	Ethyl Benzene mg/Kg	Toluene mg/Kg	Total Xylenes mg/Kg	MTBE mg/Kg
Risk Regulatory Criteria								
USEPA RSL Residential	82	96	2500	1.2	5.8	4900	580	47
ESL - Construction Workers	1800	1100	54000	33	540	4700	2400	4100
ESL - Residential	430	260	12000	0.0033	5.9	1100	580	47
DTSL's SLs - Residential	NA	NA	NA	0.33	NA	1100	NA	NA
See Note for Assumptions on Statistical Evaluation								
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: <1 Max: 8.4 Ave: 2	Min: <1 Max: 48 Ave: 15	Min: <5 Max: 430 Ave: 137	Min: <0.005 Max: 0.049 Ave: 0	Min: <0.005 Max: 0.02 Ave: 0	Min: <0.005 Max: 0.043 Ave: 0
AEW-1, AEW-2 0.5 & 2.5 Composite	AEW-1 0.5 AEW-1 2.5 AEW-2 0.5' AEW-2 2.5' AEW-1 5.0'	0.5 2.5 0.5 2.5 5	2.3	48	430	0.049	0.0065	0.0081
AEW-1, AEW-2 5 & 7.5 & 10 & 12Composite	AEW-1 7.5' AEW-1 10' AEW-1 12' AEW-2 5.0' AEW-2 10'	7.5 10 12 5 10						
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-2 12' AEW-3 0.5' AEW-3 2.5' AEW-6 0.5' AEW-6 2.5' AEW-3 5.0'	12 0.5 2.5 0.5 2.5 5						
AEW-3, AEW-6, 5 & 7.5 Composite	AEW-3 7.5' AEW-6 5.0' AEW-6 7.5'	7.5 5 7.5						
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4 0.5' AEW-4 2.5' AEW-5 0.5' AEW-5 2.5'	0.5 2.5 0.5 2.5						
AEW-4, AEW-5, 5 & 7.5 Composite	AEW-4 5.0' AEW-4 7.5' AEW-5 5.0' AEW-5 7.5'	5 7.5 5 7.5						



TABLE 3 (Cont'd)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, MTBE, VOCs, PESTICIDES, AND PCB ANALYSES ON SOIL SAMPLES

Risk Regulatory Criteria	Unit	Tetrachloro ethene	Other VOCs	Pesticides	PCBs
		mg/Kg	mg/Kg	mg/Kg	mg/Kg
USEPA RSL Residential		24	NA	NA	NA
ESL - Construction Workers		33	NA	NA	NA
ESL - Residential		0.59	NA	NA	NA
DTSL's SLS - Residential		0.6	NA	NA	NA
		See Note for Assumptions on Statistical Evaluation			
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Applicable	Applicable	Not Applicable
AEW-1, AEW-2 0.5 & 2.5 Composite	AEW-1 0.5 AEW-1 2.5 AEW-2 0.5' AEW-2 2.5'	0.5 2.5 0.5 2.5	<0.0010	ND	ND
AEW-1, AEW-2 5 & 7.5 & 10 & 12Composite	AEW-1 5.0' AEW-1 7.5' AEW-1 10 AEW-1 12' AEW-2 5.0' AEW-2 10'	5 7.5 10 12 5 10	0.0011	ND	ND
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-2 12' AEW-3 0.5' AEW-3 2.5' AEW-6 0.5' AEW-6 2.5'	12 0.5 2.5 0.5 2.5	<0.0010	ND	ND
AEW-3, AEW-6, 5 & 7.5 Composite	AEW-3 5.0' AEW-3 7.5' AEW-6 5.0' AEW-6 7.5'	5 7.5 5 7.5	<0.0010	ND	ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4 0.5' AEW-4 2.5' AEW 5 0.5' AEW-5 2.5'	0.5 2.5 0.5 2.5	<0.0010	ND	ND
AEW-4, AEW-5, 5 & 7.5 Composite	AEW-4 5.0' AEW-4 7.5' AEW-5 5.0' AEW-5 7.5'	5 7.5 5 7.5	<0.0010	ND	ND

TABLE 3 (Cont'd)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, MTBE, VOCs, PESTICIDES, AND PCBs ANALYSES ON SOIL SAMPLES

General Notes:

TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline; BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes/Methyl tert-Butyl Ether;
TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil. VOCs = Volatile Organic Compounds. PCBs = Polychlorinated Biphenyls

bgs=below existing ground surface

mg/Kg = milligrams per Kilogram

Regulatory Criteria:

RSL - Residential = USEPA's Regional Screening Levels under residential scenario, May 2016.

ESL - Residential = Soil ESLs for Direct Exposure Human Health Risk Levels - Residential Shallow Soil (Rev. 1 January 2019)

RWQCB Construction Worker ESLs = ESLs for Direct Exposure Soil Screening Levels Construction Worker

Exposure Scenario, Any Land Use, and Any Soil Depth, February 2016 (Revision 4, January 2019).

DTSC's SLs - Residential = California Department of Toxic Substances Control - Screening Levels for residential scenario, June 2016.

NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).

denotes the respective concentration above the detected limit

denotes the respective concentration above at least one of the regulatory criteria listed above.

Min = Minimum Concentration. Max = Maximum Concentration.

Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the full detection limit was employed for the average estimation).

TABLE 4
RESULTS OF SVOCs ANALYSES ON SOIL SAMPLES

		Ace naphthalene	Ace naphthalene	Anthracene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (g, h, i) perylene	Benzo (a) pyrene	Bis (2-ethylhexyl) Phthalate	4-Chloro aniline
Risk Regulatory Criteria	Unit	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
USEPA RSL Residential	3600	NA	18000	0.16	0.16	1.6	NA	0.016	39	NA	
ESL - Construction Workers	10000	NA	50000	110	110	910	NV	10	950	120	
ESL - Residential	3600	NA	18000	1.1	1.1	110	NA	0.11	39	3.5	
DTSL's SLS - Residential	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
See Note 6 for Assumptions on Statistical Evaluation											
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: <0.0013 Max: 0.0071 Ave: 0	Min: 0.002 Max: 0.01 Ave: 0	Min: 0.0016 Max: 0.021 Ave: 0	Min: 0.0077 Max: 0.072 Ave: 0	Min: 0.0008 Max: 0.08 Ave: 0	Min: 0.0032 Max: 0.015 Ave: 0	Min: 0.0073 Max: 0.063 Ave: 0	Min: <0.005 Max: <0.025 Ave: 0	Min: <0.0025 Max: 0.032 Ave: 0
<i>Soil Samples</i>											
AEW-1, AEW-2.0.5 & 2.5 Composite	AEW-1.0.5 AEW-1.2.5 AEW-2.0.5' AEW-2.2.5'	0.5 2.5 0.5 2.5	0.0071	0.01	0.021	0.072	0.08	0.0032	0.071	0.063	<0.025
	AEW-1.5.0' AEW-1.5.0' AEW-1.7.5' AEW-1.7.5'	5 7.5 7.5 7.5									<0.012
AEW-1, AEW-2.5 & 7.5 & 10 & 12Composite	AEW-1.10' AEW-1.12' AEW-2.5.0' AEW-2.10' AEW-2.12'	10 12 5 10 12	0.0027	0.0062	0.015	0.043	0.046	0.015	0.034	0.039	0.025
	AEW-3.0.5' AEW-3.2.5' AEW-6.0.5' AEW-6.2.5'	0.5 2.5 0.5 2.5									0.006
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-3.0.5' AEW-3.2.5' AEW-6.0.5' AEW-6.2.5'	0.5 2.5 0.5 2.5	<0.0013	0.002	0.0016	0.0077	0.008	0.0035	0.0073	0.0072	<0.0025
AEW-3, AEW-6, 5 & 7.5 Composite	AEW-3.5.0' AEW-3.7.5' AEW-6.5.0' AEW-6.7.5'	5 7.5 5 7.5	<0.0026	0.0092	0.0084	0.035	0.034	0.015	0.029	0.033	<0.010
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4.0.5' AEW-4.2.5' AEW-5.0.5' AEW-5.2.5'	0.5 2.5 0.5 2.5	<0.0013	0.0061	0.0073	0.02	0.022	0.0076	0.021	0.02	<0.0050
AEW-4, AEW-5, 5 & 7.5 Composite	AEW-4.5.0' AEW-4.7.5' AEW-5.5.0' AEW-5.7.5'	5 7.5 5 7.5	<0.0026	0.0065	0.0071	0.028	0.034	0.011	0.046	0.027	<0.0050

TABLE 4 (Cont'd)
RESULTS OF SVOCs ANALYSES ON SOIL SAMPLES

		Chrysene	Dibenz(a,h) anthracene	Di-n-butyl Phthalate	Diethyl Phthalate	Fluor anthene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Phenol	Pyrene	Other SVOCs
Risk Regulatory Criteria	Unit	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
USEPA RSL Residential		16	0.016	6300	51000	2400	0.16	3.8	NA	19000	1800	NA
ESL - Construction Workers		9100	11	NA	150000	6700	110	400	NA	98000	5000	NA
ESL - Residential		110	0.11	NA	51000	2400	1.1	3.8	NA	23000	1800	NA
DTSL's SLS - Residential		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Approx. Depth (Feet bgs)	Min: 0.0057 Max: 0.086 Ave: 0	Min: <0.0025 Max: 0.014 Ave: 0	Min: 0.0035 Max: 0.041 Ave: 0	Min: <0.005 Max: 0.26 Ave: 0.1	Min: 0.0061 Max: 0.049 Ave: 0.1	Min: 0.0057 Max: 0.092 Ave: 0	Min: 0.0015 Max: 0.092 Ave: 0	Min: <0.005 Max: 0.092 Ave: 0	Min: <0.01 Max: 0.11 Ave: 0	Min: 0.0065 Max: 0.11 Ave: 0.1
Soil Samples												
AEW-1, AEW-2,0.5 & 2.5 Composite	AEW-1,0.5	0.5	0.086	0.014	0.016	0.26	0.1	0.049	0.013	0.092	<0.025	0.11
AEW-1, AEW-2,0.5 & 2.5 Composite	AEW-1,2.5	2.5	0.086	0.014	0.016	0.26	0.1	0.049	0.013	0.092	<0.025	0.11
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-2,2.5'	2.5										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-1,5.0'	5										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-1,7.5'	7.5										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-1,10'	10										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-1,12'	12	0.048	0.0086	0.0061	<0.010	0.087	0.026	0.015	0.073	<0.010	0.081
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-2,5.0'	5										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-2,10'	10										ND
AEW-1, AEW-2,0.5 & 7.5 & 10 & 12Composite	AEW-2,12'	12										ND
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-3,0.5'	0.5										ND
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-3,2.5'	2.5	0.0057	<0.0025	0.0035	<0.0050	0.0061	0.0057	0.0031	<0.0050	0.025	0.0065
AEW-3, AEW-6, 0.5 & 2.5 Composite	AEW-6,0.5'	0.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-6,2.5'	2.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-3,5.0'	5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-3,7.5'	7.5	0.038	0.0069	0.0069	<0.010	0.041	0.02	0.029	0.11	0.042	ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-6,5.0'	5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-6,7.5'	7.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4,0.5'	0.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4,2.5'	2.5	0.022	0.0051	0.0041	<0.0050	0.039	0.015	0.0015	0.025	0.012	0.033
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-5,0.5'	0.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-5,2.5'	2.5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-4,5.0'	5	0.032	0.0068	0.041	<0.010	0.043	0.022	<0.0026	0.027	<0.010	0.045
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-5,5.0'	5										ND
AEW-4, AEW-5, 0.5 & 2.5 Composite	AEW-5,7.5'	7.5										ND

TABLE 4 (Cont'd)
RESULTS OF SVOCs ANALYSES ON SOIL SAMPLES

General Notes :

SVOCs = Semi-Volatile Organics Compounds

bgs=below existing ground surface

mg/Kg = milligrams per Kilogram

Regulatory Criteria:

RSL - Residential = USEPA's Regional Screening Levels under residential scenario, May 2016.

ESL - Residential = Soil ESLs for Direct Exposure Human Health Risk Levels - Residential Shallow Soil (Rev. 1 January 2019)

RWQCB Construction Worker ESLs = ESLs for Direct Exposure Soil Screening Levels Construction Worker

Exposure Scenario, Any Land Use, and Any Soil Depth, February 2016 (Revision 4, January 2019).

DTSC's SLs - Residential = California Department of Toxic Substances Control - Screening Levels for residential scenario, June 2016.

NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).

denotes the respective concentration above the detected limit

denotes the respective concentration above at least one of the regulatory criteria listed above.

Min = Minimum Concentration. Max = Maximum Concentration.

Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the full detection limit was employed for the average estimation).

TABLE 5
RESULTS OF VOCs ANALYSES ON SOIL VAPOR SAMPLES

	Acetone	Benzene	Carbon Disulfide	Ethy benzene	Heptane	Hexane	Tetrachloro ethene	Toluene	1,2,4- Trimethyl benzene	Other VOCs
Unit	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Risk Regulatory Criteria										
ESL - Tier 1	1000000	3.2	NA	37	NA	NA	NA	15	10000	NA
ESL - Residential	1000000	3.2	NA	37	NA	NA	NA	15	10000	NA
ESL - Commercial	4500000	14	NA	160	NA	NA	NA	67	44000	NA
See Note for Assumptions on Statistical Evaluation										
Sample ID	Approx. Depth (Feet bgs)	Min: 260 Max: 5800 Ave: 3030	Min: 5.8 Max: 23 Ave: 14.4	Min: <3.2 Max: 23 Ave: 13.1	Min: <22 Max: 64 Ave: 43	Min: 95 Max: 3800 Ave: 1947.5	Min: 250 Max: 6700 Ave: 3475	Min: 48 Max: 120 Ave: 84	Min: <19 Max: 810 Ave: 414.5	Min: 8.4 Max: <25 Ave: 16.7
SVP-1	4.5	260	5.8	<3.2	64	95	250	48	810	8.4
SVP-2	4.5	5800	23	23	<22	3800	6700	120	<19	<25
ND ND										

VOCs = Volatile Organic Compounds

µg/m³ = micrograms per cubic meter

ESL - Tier 1 = Tier 1 of the California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria, July 2019 (Revision 2).

ESL - Residential = Vapor ESLs Subslab/Soil Gas Residential Human Health Risk Levels - Residential, July 2019 (Revision 2)

ESL - Commercial = Vapor ESLs Subslab/Soil Gas Residential Human Health Risk Levels - Residential, July 2019 (Revision 2)

NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s);

denotes the respective concentration above the detected limit

denotes the respective concentration above at least one of the regulatory criteria listed above.

Min = Minimum Concentration. Max = Maximum Concentration.