RECEIVED
By Alameda County Environmental Health 3:14 pm, Sep 06, 2016

Mr. Dilan Roe
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Re: **Data Gap Assessment Report**
1244 2nd Avenue
Oakland, California

Dear Mr. Roe:

1244 2nd Avenue LLC, has retained Pangea Environmental Services, Inc. (Pangea) for environmental consulting matters at the project referenced above. Pangea is submitting the attached report on our behalf.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Sincerely,

Trent Moore
1244 2nd Avenue LLC

August 31, 2016

Ms. Anne Jurek
Alameda County Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Re: **Data Gap Assessment Report Addendum**
1244 2nd Avenue
Oakland, California 94606

Dear Ms. Jurek:

On behalf of 1244 2nd Avenue LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Data Gap Assessment Report Addendum* for the subject property. This revised report addresses comments in your emails dated August 18 and 30, 2016 (Appendix A) regarding the *Data Gap Assessment Report* dated July 11, 2016. Your correspondence requested information to help document that the limited, unauthorized petroleum hydrocarbon release from the recently removed 1,000-gallon heating oil underground storage tank (UST) does not pose a risk to human health and the environment, to pursue regulatory closure for this case.

NAPHTHALENE ANALYTICAL DATA

Your agency correspondence requested clarification about provided naphthalene data. Table 3 of our report mistakenly reported that naphthalene in soil gas from sample SVW-1 was <1,800 µg/m^3. This concentration actually corresponds to the TPHg analysis for this sample. Unfortunately, the laboratory could not quantify soil gas results for naphthalene due to use of a Tedlar bag for sample collection.

Pangea notes that the lack of soil gas data for naphthalene is not a significant data gap, since no naphthalene (or other volatile organic compounds) were detected in any analyzed soil or groundwater samples for this site as summarized herein. Revised Tables 1 and 2 for soil and groundwater data, respectively, are attached. For groundwater samples from borings B-4 through B-6 and from the Tank Pit, the laboratory reported naphthalene concentrations below the reporting limit of <0.5 µg/L. For soil samples from borings B-5 (3.5 and 7 ft bgs), B-6 (8 ft bgs), and the Tank Pit (5 and 12 ft bgs), the laboratory reporting naphthalene concentrations below the reporting limit of <0.005 mg/kg. Furthermore, the oxygen concentration in subslab gas suggests bioattenuation of any VOC vapors would occur beneath the building slab, decreasing the necessity for naphthalene data for soil gas.

DEPTH OF UNSATURATED SOIL

Your agency asked about the depth of unsaturated soil beneath the foundation. The depth of unsaturated soil beneath the building foundation is approximately 7 to 7.5 ft below grade surface (bgs), according to the approximate depth to water observed during completion of borings SB-1 through SB-3 within the site building.

WATER WELL SURVEY AND PLUME LENGTH

Your agency correspondence requested a water well survey. Pangea reviewed records for nearby cases to determine if a water well survey had been performed in the area. No water well survey records were found for nearby sites, despite discovered agency requests for a water well survey. Pangea requested water well records from the Department of Water Resources (DWR) on August 29, 2016. Pangea has also requested water well records from the Alameda County Public Works Agency (ACPWA).

Due to the urgent timeframe for this project, Pangea commenced a door-to-door well survey. Since the plume length exceeding water quality objectives is less than 100 ft, the survey distance will be approximately 250 ft from plume boundary based groundwater-specific criteria 1 of the Low Threat UST Closure Policy. Figure 1 shows the TPHd plume and the planned door-to-door well survey area. Pangea has contacted a title company to obtain contact information for each property owner within the well survey area. Pangea will then mail a well survey questionnaire and visit the neighborhood to expedite survey form delivery, if owners are home. If this door-to-door survey is not necessary, please let us know at your earliest convenience.

Site data indicates that the groundwater plume length above the Tier 1 ESL of 100 µg/L for TPHd-range compounds apparently emanating from the former UST is about 30 ft. This is based on a TPHd concentration of 150 µg/L in grab groundwater from boring B-2. The other more distant petroleum hydrocarbons in groundwater apparently emanate from an offsite source, according to evaluation of sample chromatograms. Pangea notes that the closest property in the apparent downgradient groundwater flow direction is approximately 75 ft from the site. This property (Au Grillz Jeweller) and other downgradient property use is primarily for parking and roadways.

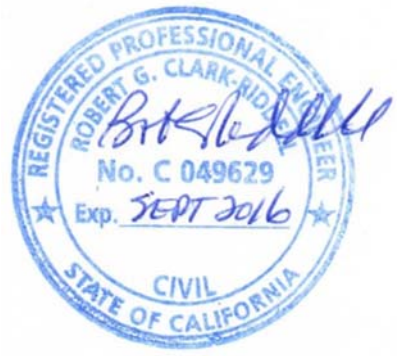
Given the apparent age of the UST and associated release, the limited plume length of 30 ft, and the unlikely water well use in the project vicinity, it seems highly unlikely that the residual plume poses a significant risk to groundwater quality or potential water wells. The water well survey will help confirm this conclusion.

CLOSURE PROCESS REQUEST

Due to the dire financial situation of the current property owner, Pangea respectfully requests that ACEH proceed at this time with the public notification process for the 'intent to close' for this case. Pangea will forward the water well survey information upon receipt of records from DWR, ACPWA, and door-to-door survey. ACEH can consider this water well information before issuing the final closure for case after the public notification period.

If ACEH cannot provide the 'intent-to-close' letter by September 6, 2016, Pangea respectfully requests that ACEH issue a 'regulatory comfort letter' by that date for the property owner's upcoming mediation and lender demands. Thank you in advance for any consideration. If you have any questions or comments, please call me at (510) 435-8664.

Sincerely,
Pangea Environmental Services, Inc.



Bob Clark-Riddell, P.E.
Principal Engineer

cc: Trent Moore, Managing Member 1244 2nd Avenue LLC
2655 Van Ness Avenue, Suite 2, SF, California, 94109
SWRCB Geotracker (electronic copy)

ATTACHMENTS

Figure 1 – Door-to-Door Well Survey Area

Table 1 – Soil Analytical Data
Table 2 – Groundwater Analytical Data
Table 3 – Soil Gas Analytical Data

Appendix A – Agency Correspondence

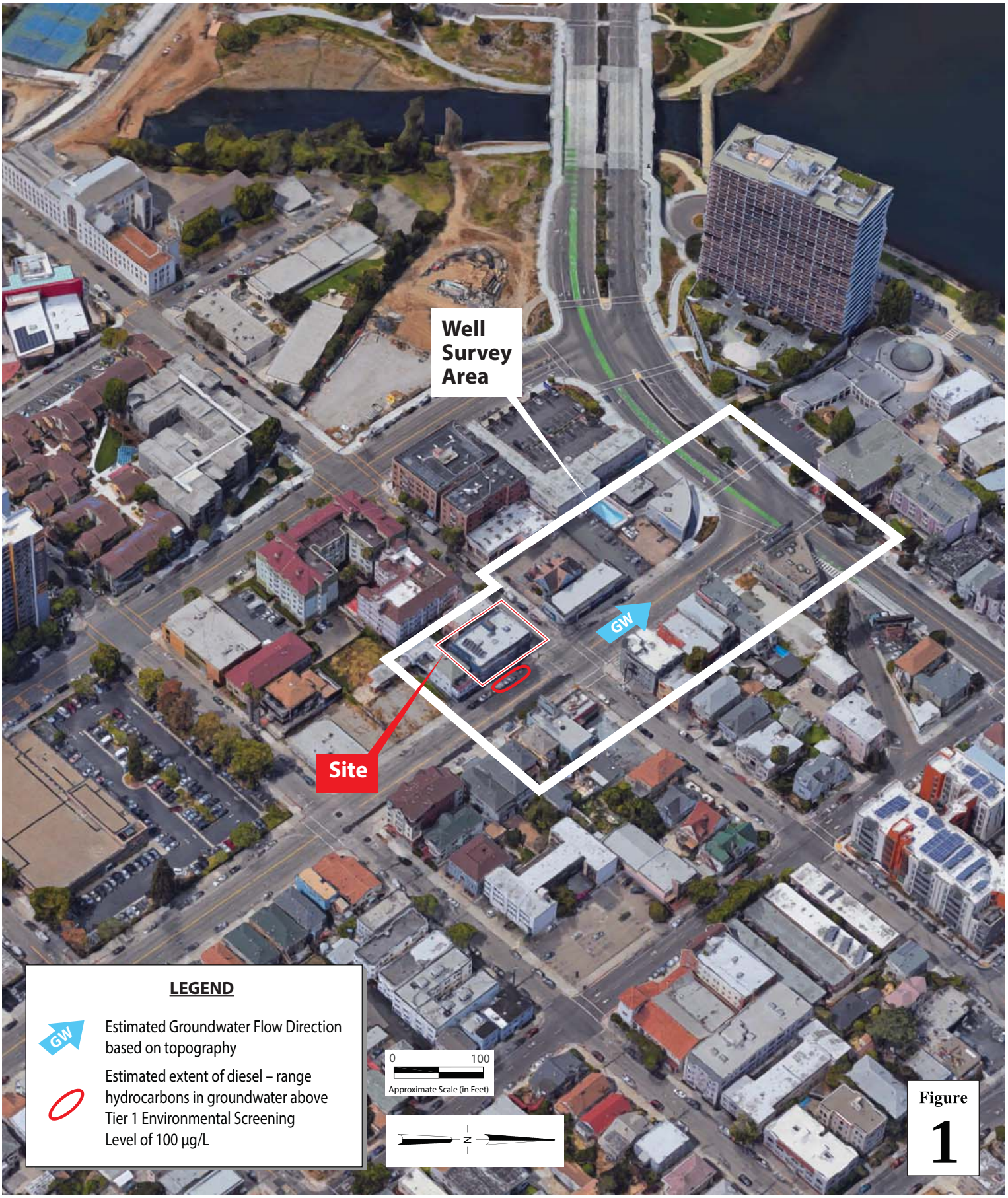


Figure 1

Well Survey Area

1244 2nd Avenue
Oakland, California

PANGEA

Table 1. Soil Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/Well ID	Date Sampled	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Other VOCs	Notes
			←					mg/Kg				→	
Soil Tier 1 ESL			**100**	**230**	**5,100**	0.044	2.9	1.4	2.3	0.023	0.033	varies	
Odor/Nuisance: Any Land Use, Deep Soil (Const Worker)			500	1,000	NE	1,000	1,000	1,000	1,000	500	1,000	varies	
Direct Exposure: Any Land Use, Any Depth (Const Work)			2,800	880	32,000	24	4100	480	2,400	3,700	350	varies	
ESL Direct Exposure - Residential Shallow Soil			740	230	NE	0.23	970	5.1	560	42	3.3	varies	
ESL Direct Exposure - Commercial Shallow Soil			3,900	1,100	NE	1.0	4,600	22	2,400	180	14	varies	
ESL Leaching to Groundwater - Drinking Water			770	570	NE	0.044	2.9	1.4	2.3	0.023	0.033	varies	
ESL Leaching to Groundwater - Nondrinking Water			3,400	3,600	NE	0.049	9.3	1.4	11	0.84	3.9	varies	
LTCP 0-5 ft (Comm/Indl)			--	--	--	8.2	--	89	--	--	45	--	
LTCP 5-10 ft (Comm/Indl)			--	--	--	12	--	134	--	--	45	--	
LTCP 0-10 ft (Utility Worker)			--	--	--	14	--	314	--	--	219	--	
December 2015 Assessment													
B-1	12/23/2015	4.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--	--	
B-2	12/23/2015	4.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--	--	
B-3	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--	--	
B-4	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--	--	
B-5-3.5	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	<0.005	ND	
B-5-7	12/23/2015	7.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	<0.005	ND	
B-6-3.5	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--	--	
B-6-8	12/23/2015	8.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	<0.005	ND	
Tank Pit 12'	12/23/2015	12	<1.0	38	63	<0.0050	<0.0050	<0.0050	<0.015	<0.050	<0.005	--	
Tank SE Wall 5'	12/23/2015	5.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	<0.005	ND	
May 2016 Assessment													
SB-1-12'	5/13/2016	12	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	
SB-2-6'	5/13/2016	6.0	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	
SB-2-9'	5/13/2016	9.0	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	
SB-2-12'	5/13/2016	12	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	
SB-2-15'	5/13/2016	15	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	
SB-3-9'	5/16/2016	12	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	

Table 1. Soil Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/Well ID	Date Sampled	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Other VOCs	Notes
			←					mg/Kg				→	
Soil Tier 1 ESL			**100**	**230**	**5,100**	0.044	2.9	1.4	2.3	0.023	0.033	varies	
Odor/Nuisance: Any Land Use, Deep Soil (Const Worker)			500	1,000	NE	1,000	1,000	1,000	1,000	500	1,000	varies	
Direct Exposure: Any Land Use, Any Depth (Const Work)			2,800	880	32,000	24	4100	480	2,400	3,700	350	varies	
ESL Direct Exposure - Residential Shallow Soil			740	230	NE	0.23	970	5.1	560	42	3.3	varies	
ESL Direct Exposure - Commercial Shallow Soil			3,900	1,100	NE	1.0	4,600	22	2,400	180	14	varies	
ESL Leaching to Groundwater - Drinking Water			770	570	NE	0.044	2.9	1.4	2.3	0.023	0.033	varies	
ESL Leaching to Groundwater - Nondrinking Water			3,400	3,600	NE	0.049	9.3	1.4	11	0.84	3.9	varies	
LTCP 0-5 ft (Comm/Indl)			--	--	--	8.2	--	89	--	--	45	--	
LTCP 5-10 ft (Comm/Indl)			--	--	--	12	--	134	--	--	45	--	
LTCP 0-10 ft (Utility Worker)			--	--	--	14	--	314	--	--	219	--	

ABBREVIATIONS AND NOTES:

mg/kg = milligrams per kilogram.

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015M.

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015.

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015.

VOCs = Volatile organic compounds by EPA Method 8260 (full list).

-- = Not analyzed.

< = Not detected at or above indicated detection limit.

ND = Not detected at various detection limits.

NE = Not established

ESL = Environmental Screening Level, from California Regional Water Quality Control Board - San Francisco Bay Region, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Revised February 2016 (Revision 3).

LTCP adopted by State Water Resources Control Board August 2012 includes general and media specific criteria for closure. Shown criteria are for select soil criteria.

Bold = Concentration above final ESL for commercial/industrial worker exposure scenario.

Table 2. Groundwater Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/Well ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	BTEX	MTBE	Naphthalene	VOCs	Notes
			←		µ g/L				→	
GW Tier 1 ESL			100	100	50,000	varies	5	0.17	varies	
Residential ESL, vapor intrusion (shallow water, ≤ 10 ft)			NE	NE	NE	varies	1,200	20	varies	
Commercial ESL, vapor intrusion (shallow water, ≤ 10 ft)			NE	NE	NE	varies	11,000	170	varies	
ESL for aquatic habitat goal: fresh water			440	**640**	**NE**	varies	66,000	24	varies	
ESL for aquatic habitat goal: salt water			3,700	**640**	**NE**	varies	8,000	240	varies	
LTCP Criteria		--	--	--	--	3,000 benzene	1,000	--	--	
December 2015 Assessment										
B-1	12/23/2015	4.5-8.5	<50	110	550	ND	<5.0	--	--	
B-2	12/23/2015	5.0-7.0	<50	150	920	ND	<5.0	--	--	
B-3	12/23/2015	4.0-7.5	<50	100	270	ND	<5.0	--	--	
B-4	12/23/2015	5.0-8.5	<50	64	<250	ND	<5.0	<0.5	ND	
B-5	12/23/2015	5.0-7.5	<50	63	<250	ND	<5.0	<0.5	ND	
B-6	12/23/2015	4.0-8.5	<50	**2,200**	1,700	ND	<5.0	<0.5	ND	e3, e7
Tank Pit	12/23/2015	5.0-12	<50	240	<250	ND	<5.0	<0.5	ND	e3
May 2016 Assessment										
SB-1	5/16/2016	7.5-12	<50	<50	<250	--	--	--	--	
SB-2	5/16/2016	7.5-15	<50	<50	<250	--	--	--	--	
SB-3	5/16/2016	7.0-12	<50	<100	<500	--	--	--	--	
June 2016 Assessment										
B-7	6/9/2016	9.1-14	<50	<50	370 *	--	--	--	--	e7
B-8	6/9/2016	8.4-13	<50	<50	<250	--	--	--	--	
B-9	6/9/2016	11.1-11.3	--	170 **	--	--	--	--	--	a, e2, e8
B-10	6/9/2016	10.3-14	<50	**1,600 ***	35,000 *	--	--	--	--	e2, e7

ABBREVIATIONS AND NOTES:

µg/L = micrograms per liter.

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015M.

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015.

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015.

VOCs = Volatile organic compounds by EPA Method 8260.

ESL = Environmental Screening Level, from California Regional Water Quality Control Board - San Francisco Bay Region, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater,* Interim Revised February 2016 (Revision 3).

Bold = Concentration above Final ESL for sites where groundwater is Not a current or potential drinking water resource.

LTCP adopted by State Water Resources Control Board August 2012 includes general and media specific criteria for closure. Shown criteria are for select groundwater criteria.

-- = Not analyzed.

< = Not detected at or above indicated detection limit.

a = Only limited groundwater was present in boring B-9 for sampling. Per laboratory discussion, the 18.5 ml sample was diluted in the field with 24.5 ml deionized water to 43 ml. Due to insufficient volume, the sample was not analyzed for TPHg or TPHmo.

e2 = diesel range compounds are significant; no recognizable pattern

e3 = aged diesel is significant

e7 = oil range compounds are significant

e8 = kerosene/kerosene range/jet fuel range

ND = Not detected at various detection limits.

NE = ESL not established.

* = Based on the review of chromatograms, the laboratory states this analytical result is not similar to source area hydrocarbon signature.

** = B-9 was a partial sample with insufficient volume to analyze for oil range compounds. Similar to the lab note regarding results for nearby borings B-7, B-8 and B-10, hydrocarbons in B-9 are likely from an offsite source rather and likely do not resemble source hydrocarbons.

Pangea

Table 3. Soil Gas Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/ Sample ID	Date Sampled	Depth (ft-ft bgs)	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Isopropyl Alcohol	Oxygen	Methane	Notes
			← ug/m^3 →						%	%	%	
ESL for Commercial Land Use:			2,500,000	420	1,300,000	4,900	440,000	--	--	--	--	
ESL for Residential Land Use:			300,000	48	160,000	560	52,000	--	--	--	--	
No Bio-Attenuation Zone, **Residential** (LTCP)			--	85	--	1,100	--	93	--	--	--	
No Bio-Attenuation Zone, **Commercial** (LTCP)			--	280	--	3,600	--	310	--	--	--	
With Bio-Attenuation Zone, **Residential** (LTCP)			--	85,000	--	1,100,000	--	93,000	--	--	--	
With Bio-Attenuation Zone, **Commercial** (LTCP)			--	280,000	--	3,600,000	--	310,000	--	--	--	
SVW-1	5/24/2016	5-6	<1,800	<6.5	8.9	<8.8	<27	--	<0.005	9.9	<0.0001	

Abbreviations:

SVW-1 = Soil Gas Sample

ug/m3 = Micrograms per cubic meter of air results calculated by laboratory from parts per billion results using normal temperature and pressure (NPT).

ft - ft bgs = Depth interval below ground surface (bgs) in feet.

Other VOCs = Volatile organic compounds by EPA Method TO-15, uses GC/MS scan.

< n = Chemical not present at a concentration in excess of detection limit shown.

--- = Not analyzed

MRL = Method reporting limit.

ESL = Environmental Screening Level, from California Regional Water Quality Control Board - San Francisco Bay Region, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Revised February 2016 (Revision 3).

LTCP adopted by State Water Resources Control Board August 2012 includes general and media specific criteria for closure. Shown criteria are for select soil gas criteria.

Bold = Concentrations above ESLs for Residential and/or Commercial Land Use for shallow soil gas (SG samples).

Varies = Concentration detections for VOCs varies. Please see analytical report.

APPENDIX A

Agency Correspondence

Bob Clark-Riddell

From: Jurek, Anne, Env. Health <Anne.Jurek@acgov.org>
Sent: Thursday, August 18, 2016 1:00 PM
To: Bob Clark-Riddell
Cc: Roe, Dilan, Env. Health
Subject: Response to Site Assessment Report, Fuel Leak Case RO3216, 1244 2nd Avenue, Oakland

Hello Bob,

I'm just following up to summarize the information that we need after our review of and discussion on "Data Gap Assessment Report," dated July 11, 2016, in order to move the case forward. It is follows:

1. A determination as to why a reporting limit of 1800 µg/m^3 was used by the laboratory for naphthalene in its analytical report.
2. A review of naphthalene analysis that was done for soil and groundwater samples. Please include that data in Tables 1 and 2 in the report.
3. A water supply well survey.
4. The depth of unsaturated soil beneath the building foundation.

Let me know if you have any questions. Thanks.

Anne

Anne Jurek, M.S.
Professional Technical Specialist II (Geology)
Alameda County Department of Environmental Health (ACDEH)
1131 Harbor Bay Pkwy
Alameda, CA 94502
(510) 567-6721; Ext. 36721
anne.jurek@acgov.org

Bob Clark-Riddell

From: Jurek, Anne, Env. Health <Anne.Jurek@acgov.org>
Sent: Tuesday, August 30, 2016 10:22 AM
To: 'trent@shamrocksf.com'
Cc: Bob Clark-Riddell; Roe, Dilan, Env. Health
Subject: Response to Request for Closure, Fuel Leak Case No. RO3216, GeoTracker Global ID T10000008860, 1244 2nd Avenue, Oakland, CA 94606
Attachments: FTP and GeoTracker requirements.pdf

Dear Mr. Moore,

Alameda County Department of Environmental Health (ACDEH) staff has reviewed the fuel leak case file for the above referenced site, including the most recent document entitled, "Data Gap Assessment Report," dated July 11, 2016, which was performed on your behalf by Pangea Environmental Services, Inc. (Pangea). This investigation was based on the proposed scope of work that was conditionally approved by ACDEH on May 10, 2016. The investigation presents the analytical results of soil, grab groundwater, and soil gas samples that were collected during May and June 2016. The report stated that the site met Media-Specific Criteria for the State Water Resources Control Board's (State Water Board) Low-Threat Underground Storage Tank Case Closure Policy (LTCP) and recommended "no further action."

Based on ACDEH's review, the case at this time is not eligible for closure under the LTCP. Before a determination can be made as to closure, additional data is needed, which were summarized in our email to Pangea dated 8/18/2016:

1. A rationale for the reporting limit of 1800 µg/m^3 that was used by the laboratory for naphthalene in its analytical report.
2. A review of naphthalene analysis that was done for soil and groundwater samples and an inclusion of that data in Tables 1 and 2 in the report.
3. A water supply well survey. The survey should be completed using records from Alameda County Public Works and the California Department of Water Resources.
4. The depth of unsaturated soil beneath the building foundation.

Please submit a Revised Data Gap Assessment Report with the above requested data according to the following schedule and file-naming convention:

- **October 14, 2016**: Revised Data Gap Assessment Report
- SWI_ADEND_R_yyyy-mm-dd_RO3216

GeoTracker Compliance: Please upload all other data related to this case, including borehole logs, site map, and analytical data (EDF format) onto State Water Board's GeoTracker website. This data is being requested pursuant to California Code of Regulations, Title 23, Division 3, Chapter 30, Articles 1 and 2, Sections 3890 to 3895. Details of the submission requirements are discussed in the attachment.

Please contact me if you have any questions.

Sincerely,

Anne Jurek, M.S.
Professional Technical Specialist II (Geology)
Alameda County Department of Environmental Health (ACDEH)
1131 Harbor Bay Pkwy
Alameda, CA 94502
(510) 567-6721; Ext. 36721
anne.jurek@acgov.org